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A TRUE ORDER OF STUDIES IN PRIMARY INSTRUCTION, AND THE PROPER TIME FOR EACH.

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The natural order of studies in primary instruction must of necessity be the true one, for Nature makes no mistakes. In Nature all is harmony, and when her laws are violated the true end can never be reached.

The birds never make a mistake; there never was a robin whose young were not taught to fly, nor a nightingale whose little ones were not taught to sing. These things are always taught at the proper time and in the proper way. The bees make no mistake: they buzz through the long summer day, finding the sweetest flowers, and making all the honey they can. But they are creatures of instinct, and we are human beings endowed with reason; yet in the world that is governed by reason,—or, rather, where reason is not used rightly —the little human robins are turned into mocking-birds and parrots, the human bees buzz into the wrong hive, and it is only in the human world that there are discords in the harmony. The closer, then, we keep in harmony with Nature, the more perfect will be the result.

"Education has to do with the heart, the head, and the hand." In other words, the moral, mental, and physical nature are each a part of the whole, and true education must include the cultivation of each. In a land whose schools recognize no sect nor creed, where are gathered children of all nationalities and all beliefs,—where all classes and conditions of society meet on equal footing, and where the only religion that can be taught is the religion of conduct and character, it is of the highest importance that no opportunity for moral instruction

should be allowed to pass unheeded. Habits of diligence and order should be cultivated every day and every hour, and lessons should be given in kindness, thoughtfulness, courage, and honesty.

So, also, should the physical nature be cared for. The maxim, "A sound mind in a sound body," is as true now as it was when it first came from the lips of the philosopher. Although we consider school-work in general as mental training, yet the physical and moral health can not be separated from the mental, for they are by nature together; and the care of the physical health and of morals is as much a part of the natural order of studies as the training of the mental faculties.

In the different divisions of the public school, which are made according to the age and ability of the pupils, by far the most important is the primary grade. Here the children are, by reason of their age, most susceptible to the influences around them; in this school is found the greatest number of pupils. All do not complete the entire course and graduate from the high school, but all must enter the primary, and many children never go beyond it. It too often happens that, even at that tender age, their earnings are needed to swell the income of the family. Hence it is absolutely necessary that the children of poverty, whose years in school are few, and who are obliged to battle with the world when they are very young, should receive, in the primary school, the best instruction the State can furnish, if, in return, the State is to receive from the school those who will become good citizens. It is even more necessary that children of wealth, whose influence in the world may be greater on account of that wealth, should be taught, at the outset, habits of diligence and order. Therefore, in the time that is allotted to primary work, every effort should be made to fit the average boy and girl morally, mentally, and physically for the requirements of every-day life.

If, then, for the reasons that have been given, the primary school is so important, the position of primary teacher must be a very important one; and so it is, for "As is the teacher so is the school." The best order of work and the best methods are powerless in the hands of a poor teacher, just as the finest marbles and the best chisels, in the hands of au unskilled workman, produce nothing that is art. The architect who plans the house in which we live, and the workmen who carry out his designs, have served their term of apprenticeship. The dressmaker and tailor who make the clothing that we wear are skilled in their separate trade. From the physician who is to heal our bodies we require not only a knowledge of the science of medicine, but a knowledge of the practical application of that science, before we are willing to trust our dear ones in his hands. Alas, that

we are not equally exacting in regard to the qualifications of those to whom we trust the mental training of our little ones! For all physical wants we make proper provision; but the training of the human intellect, which is God's greatest gift to man, is frequently given to an untrained teacher. If there is any place where skilled teachers are needed, it is in the primary school; for these little ones are quick to feel the force of sympathy, and this is the beginning of school-work. In this school a love of books and learning, of honor, justice, and morality, of nature and of Nature's God, will take root, and receiving due encouragement it will go on to the highest things which the human mind can conceive; or it may, through lack of proper guidance, become perverted and eventually lost. Therefore a knowledge of the mind that is to be taught,—how to stimulate, how to control, how to encourage, how to restrain, how to guide and direct its movements and impulses, and a knowledge of the science of the work that is to be done, are necessary for her to whom is intrusted the teaching of "His little ones."

For this one profession the State, through its normal schools, furnishes the preparation. In the best of these schools not only the science of teaching is taught, but the principles that are taught are put into practical application in training-schools provided for the purpose, and the work of teaching, as well as that of learning, must be well done before a diploma is given. With such preparation as this, good teachers can be expected. The same preparation may not be necessary for all, but all need some preparation. To this preparation add a love for the work and for children, the originality and personality of a true woman, and we have the true primary teacher, the first necessary element in a true order of studies.

The true order of studies is the natural order. If we wish to find the true order of nature, we must begin where Nature begins. Nature's first lessons are given to the baby in the cradle. Give a baby a new toy, and in a very short time it will have a fair knowledge of the qualities of the plaything, and it will get its knowledge with Nature for a teacher. Let us observe the lesson.

First, the eyes are wide open, and the baby looks the object thoroughly over; then the little hands are reached to take it, and the baby pats it first with one hand and then with the other; in another instant the toy has found its way to the baby's mouth for further investigation. Soon it is pounded, to bring out whatever noise there is about it; perhaps the object will be broken; if so, the probabilities are that the baby will express his surprise and delight at having discovered one thing more; if it is not broken, the object will soon be thrown aside, and the baby has finished his object-lesson. But if a

new object is presented, it will be subjected to the same process and with the same degree of interest and satisfaction.

From this observation of a natural lesson we have learned that the baby obtained his knowledge of the object by seeing, touching, tasting, and hearing, by the exercise of the faculty called perception,—that faculty of the mind first exercised in getting knowledge in the natural way, and therefore in the true way; also, that when the child grew tired of one object he could be interested in a different one, thus showing that nature needs variety.

At a very early age we notice that a baby remembers; for its mother is missed when absent, and greeted by a smile on her return. This shows that memory is the next faculty exercised in Nature's order of mental work.

Soon another faculty presents itself. Whatever has frightened the little one once will be sure to frighten it again. It seems to say to itself, "The other dog hurt me; therefore this one will." This faculty of reason is exercised in very young children. The germ of every faculty of the human mind is perfect in the baby; but in the baby's mind all faculties are not exercised equally. Reason, which is developed to its full extent late in life, occupies a smaller place than the others in the earlier mental work of a child's life. It is, therefore, evident that if we would train the mind after Nature's model, the subjects which are taught must always cultivate perception and memory and language, and must appeal to reason in every case, when the little mind can be led in a natural and logical way to a correct conclusion.

Generally speaking, a child does not enter school until he is five years old. In that five years he has gained a vast amount of knowledge. No lesson was hard or disagreeable, because the mother, whose love was boundless, was the teacher and Nature ruled the order. The child was eager to learn. If he saw anything new, he wanted immediately to know all about it, and went to mamma with the questions, which were answered, one by one. He learned as much as he was able to comprehend about that object, but soon something else presented itself, and new questions were asked and answered as before.

This little one began arithmetic when he could say, "Two hands"; he commenced geography when he said, "Here" and "There"; geometry, when he first knew anything of lines; moral science, as soon as he knew the meaning of "naughty" and "good"; in grammar this little child has mastered almost completely his mother-tongue, the art of language, and all without learning rules.

Since Nature has commenced so many subjects and she is to be

our guide, we surely cannot do wrong if we attempt to carry on the work that she has already begun; but if we take her order of work we must take her method of work also, and remember that a child's mind must be formed before it is furnished, and that while science builds *down* from *above*, Nature builds *up* from *below*.

There seems to be a prevailing idea that the waves of reform which have undermined the old methods have as yet produced no satisfactory results in the new methods; complaint is made that subjects have been multiplied until that which is useful and necessary in knowledge has been replaced by that which is ornamental, and that the children of the present day, under the present method of instruction, are not taught to read, write, and cipher as well as the children were years ago. If such is the case, then there is great fault somewhere.

That method is the best which produces the best results. To teach a child to *see*, to *think* and to express his thoughts, is to send him into the world a vital and intellectual force. Whatever method will accomplish this is a good one.

A person is not educated who knows books only; in the natural order a knowledge of *things* precedes a knowledge of *words*. To quicken the perceptive faculties, arouse the intellect, develop the moral nature, and cultivate language, there is nothing in the whole curriculum of study as beneficial as a systematic course of object-lessons, or miscellaneous lessons, if the latter term is a more comprehensive one. It is comparatively easy to make a child's mind a receptacle of facts, but it is quite another thing to develop close and accurate powers of observation and expression; to teach a child to *see*, to THINK, and to TALK. All teachers know the difficulty of getting young children to talk well in school, and indeed many children of a larger growth are careless and indistinct speakers. The *art* of language is an important branch of education. It is the only means a teacher has of finding out how thoroughly a child has mastered a subject. This cultivation of language can be obtained most readily from object-lessons, because in them the child has some familiar subject to talk about, and they are a help toward removing any restraint the child may feel on account of being away from home and among strangers. A variety of subjects can be introduced and new interest constantly aroused. Conception and reason are cultivated through perception, and this is the natural order of the development of the faculties. Through these lessons instruction may be given in school in the same manner that it was given at home,—that is, from objects; and learning *in* school may be made as pleasant as learning *out* of school. These lessons are also a help in the study of Nature.

Give a bright boy a text-book on Botany or Natural History, and assign him a lesson to learn, and the task will be monotonous; but tell the boy to cast aside the books and start for the woods, and the lessons will be learned with pleasure and with a zest known only to boyhood; the student returns a wiser boy, with that better knowledge, which, alas! was

> "Never learned of schools;
> Of the wild bee's morning chase,
> Of the wild flower's time and place,
> Flight of fowl and habitude
> Of the tenants of the wood.
> How the tortoise bears his shell,
> How the woodchuck digs his cell,
> And the ground-mole sinks his well,—
> How the robin feeds her young,
> How the oriole's nest is hung,—
> Where the whitest lilies blow,
> Where the freshest berries grow,
> Where the ground-nut trails its vine,
> Where the wood-grape's clusters shine,
> Of the architectural plans
> Of gray hornet artisans;
> For eschewing books and tasks,
> *Nature answers all* he asks."

Therefore we place object-lessons first in the true order of studies in primary instruction, because they are so placed by Nature. This work is largely work in language. Reading and writing are but language also, and primary arithmetic should be a series of object-lessons on numbers. The order of studies in primary instruction, should be object-lessons, reading, writing, and arithmetic. The work is arranged for a primary course of four years, and allows for the completion of the common-school studies in eight years.

MISCELLANEOUS LESSONS.

Under the title given above we include lessons on pictures, the human body, animals, plants, objects, form, color, weight, place, drawing, etc. It can readily be seen that such a course of lessons, if given in a thorough and systematic manner, will interest and amuse the children, will cultivate originality of thought and expression, will be a help toward moral culture and refinement, and can not fail to furnish a vast amount of general and useful information. In them there is ample room for variety, but there should be system in the variety, while at the same time these lessons should be made a help to all other lessons. Miscellaneous lessons should be so planned that each

lesson should have a definite beginning and a definite ending. The work of one year should be based directly on the work of the preceding year. Too often these lessons are given in a careless way, going over much in general and nothing in particular; and, as a result, no practical benefit is derived from them. On the other hand, *ruts* must be avoided. It is by no means necessary that a class should learn exactly the same matter that was given to the corresponding class the previous year. Whole sets of lessons may be changed, and good results obtained; but when a teacher comes before a class to give any lesson, she should be well prepared on that lesson in regard to both matter and method. This work, of course, requires some time out of school, but the results which are obtained are a sufficient recompense. Such apparatus as is needed for this work is usually furnished generously. It is a teacher's duty, and should be her pleasure, to use it to the best possible advantage.

During the first year of school the subjects under consideration in these lessons should be changed every fortnight, in the second and third years they should be changed at the beginning of each month; the fourth year the subject of geography should take the place of these lessons.

While it is well to change the subjects in these lessons once in two weeks during the first year, and once each month during the second and third years, it is not expected that all subjects will be considered before the first is reviewed. From three to five only should be taken up before the first is continued. These should be carried on until the interest begins to wane, when they should be changed for others, which in their turn are changed for others still, until we again return to the first one; this should then be rapidly reviewed and carried on from the point where the work was discontinued.

At the beginning of school-work the main object should be to get children to observe things closely and to talk; later in the course, memory, imagination, reason, and the moral nature should be duly exercised. As these different subjects are mainly independent of each other, no particular rule for their order need be given.

Picture-lessons are a good beginning, as a child can be readily interested in a pretty picture. The pictures which are selected should contain people or animals, or both,—something which the child sees frequently, as scenes from farm-life, children at play, etc. In any picture-lesson the children should be led to select and name the different objects; the teacher should bring out by question as many of different ideas that the picture is intended to convey as are within the immediate perception of the children: Clear and complete an-

swers should be insisted upon from the outset; as, in a lesson on "A Cat and Kittens," if a teacher should ask, "What are these kittens doing?" the answer should be, "These kittens are playing," not simply the answer, "Playing." It is only by the most persistent effort that children can be made to use correct language and to *talk well*. Ordinarily we consider that a child reads anything well when he reads it as well as he could talk it; but if he does not talk well, he surely can not be expected to read well. Hence the importance of this matter of correct language in every lesson.

The limit of time for any lesson during the first year should be from ten to fifteen minutes. In the second and third years the time may be gradually lengthened, but half an hour is the longest time that should ever be given to any lesson in a primary school.

After the first two weeks in school, or even sooner, a portion of the lesson should be written on the board for the children to copy as a reproduction lesson. Later, this reproduction should be done from memory, and a teacher's test of the thoroughness of any lesson is the manner in which it is reproduced.

Human Body.—After conversation-lessons on pictures have been given for two weeks, lessons on the human body may be given. This subject will furnish the children with sufficient knowledge of their own organization as may make it a standard of comparison with that of other animals; it will teach them several new terms and the correct application of those terms, and may serve as a beginning in the study of physiology. The direct object of these lessons is to lead children to a consideration of their own organs, and to teach the proper name and use of each.

In the first lesson different parts of the body should be touched and named, and simple but complete expressions used, as, "I am touching my head;" "This is my right hand," etc. The second lesson should be more definite, and should include names of the four principal parts of the body,—head, trunk, upper limbs, and lower limbs. In the third lesson the use and number of the limbs should be considered; next the joints,—their use, position, number, etc. Following these the parts of the limbs may be taken, teaching the proper application of the terms arm, forearm, thigh, leg, calf, shin. Separate lessons should be given on the hand and foot, naming the parts of each, stating different uses, etc., followed with particular lessons on the different parts of the head and face.

Afterward, in reviewing the work, and when several lessons on animals have been given, it is well to give a series of lessons on comparison of the different organs of the human body with the correspond-

ing organs of other animals. And many profitable moral lessons may be given incidentally in this way.

The work here indicated may be accomplished the first year, but it will be more beneficial if it is carried into the second year, especially the work in comparison, for the ability to reason increases with age. Under this same subject some of the bones of the body and their use should be taught.

Animals.—Lessons on animals naturally follow lessons on the human body. In these lessons the moral and mental natures are exercised and cultivated.

When a child sees any objects and has formed his idea of the object as a whole, the next natural subject is the parts of the object. During the first year the faculty of perception is exercised in regard to the external *parts* of animals, the names of the parts are taught, and also the numbers, position, and use of the parts, and the use of the animal to man. Feelings of kindness and sympathy toward the brute creation should be developed. Native animals only should be considered this year. During the second year conception also is appealed to, as well as perception. The description of the parts and habits of different animals, both foreign and domestic, should furnish matter for these lessons. In the third year this work is more extended still. The different parts and habits of the animals are considered; reason is exercised in regard to the adaptation of the parts to characteristic habits and in comparing and classifying animals. In this way, to a certain extent, the children are building their science of natural history.

It is well to devote the time which in the second year is given to animal lessons to the study of mammals, and in the third year to consider and classify the different orders of birds. The lessons may be varied by introducing a new form of the work. One lesson may be given on "The Coverings of Animals;" another, on the "Sounds Made by Animals;" etc. In these lessons a portion of the matter should always be written on the board.

The first year the children should copy this work as a reproduction of the lesson and as a cultivation of written language. After the first year all new words that are placed on the board should be spelled by the class, and the reproduction should be done from memory. Sometimes, as a review of former lessons, each child in the class may be given a different animal to write about. This reproduction-work should always be carefully examined by the teacher, and commended whenever the work will admit of it. In these lessons particular attention should be given to both spoken and written language and to moral instruction.

OBJECT-LESSONS.

Object-lessons are another means of leading children to observe closely and to communicate the results of their observation. The plan of these lessons is similar to that followed in the animal lessons. The object is considered as a whole, then in regard to its parts and their position and use. Next the qualities of the object are considered; then the uses, and the qualities on which those uses depend. Finally, the object is considered in regard to growth, cultivation, or manufacture. It is to be remembered that the object of these lessons is not to cram ideas into the minds of children, but to develop those ideas in the mind. In this work the following matter is sufficient for a lesson to be given during the first year of school:

A Hat.—Parts: A hat has a crown, brim, binding, lining, and band.

Or, some lessons on simple qualities may be given, as,—

An Apple.—This apple is red. This apple is round. This apple is sour.

The second-year ideas of important qualities should be developed, and the term for those qualities given. Several objects should be used in developing the idea before the term is given: as in a lesson in which the idea of the word "brittle" is to be developed, experiment should be made with crayon, glass, slate-pencil, etc., before the term is given. The children should state, of each object, that "it will break easily." The term "brittle" should then be given and applied. The matter of the lesson should be written upon the board, and the class should be drilled upon the spelling of the words; the lesson should then be reproduced from memory. A list of objects which possess a certain quality may constitute the matter for a spelling-lesson.

During the third year the faculties of the mind are still further exercised in the lessons. Matter similar to the following should be obtained from the children in any one lesson. (In this year all reproduction should be from memory.)

Milk.
- I. Qualities.
  - (1) Milk is a natural animal substance.
  - (2) It is white, opaque, liquid, wholesome, nutritious, and palatable.
- II. Uses. — Milk is used for food because it is wholesome, nutritious, and palatable. It is used in cooking because it is liquid, sweet (or sour), and wholesome. Milk is manufactured into butter and cheese.

The process of making butter and cheese may also be considered.

Lessons on the comparison of the qualities of different objects are an excellent drill in this work. The children should be led to select

and name the qualities which two objects possess in common, and also the qualities which are not common to both. For this purpose subjects similar to the following should be selected: Vinegar and Water; Salt and Sugar; Coal and Iron, etc. Lessons on foreign substances, their growth and cultivation, or manufacture, are pleasant and instructive. Lessons on the growth and cultivation of tea, coffee, cotton, sugar, camphor, etc., are well adapted to pupils of this grade. The children should first be led to tell all they know about the subject, and then some new information should be given them. Similar lessons on the manufacture of common articles, such as glass, starch, woolens, cottons, etc., are equally beneficial and instructive.

Enough has already been said to indicate the plan of work and the method that is to be followed in these miscellaneous lessons. Each year has its regular amount of work in each of these subjects just as exactly as it has in reading or arithmetic. The method for the remaining subjects is similar to that pursued in the subjects already considered. In any of this work there is no violation of Nature's laws, for nothing is given that a child can not readily comprehend, and no subject is taken up which Nature has not already begun.

Color.—The color lessons which are given in the first year shouid include the names of colors, and the proper application of those names to the colors in different objects, such as blocks, cards, ribbons, flowers, fruits, and any object either within or outside of the school-room. Ideas of harmony of color should be developed by leading the children to place colors side by side that look well together. In connection with these lessons in color, work in drawing may be introduced, and the children taught to draw leaves, and even flowers, from nature, using colored crayon for the work. This work is both pleasant and useful.

The second year the work in color should be confined to the consideration of standard colors, tints, shades, and hues of color.

The third year the primary colors should be named, and children should be told why they are called primary colors. Secondary and tertiary colors should be formed from the primary ones by actuul experiment. The teacher should *direct* the work of mixing the colors, but the children should do the work. Harmony of color should be defined, and exercises in arranging colors with a view to harmony should be given. In this way these lessons are a cultivation of perceptions, reason, and taste.

Form.—The child began the study of geometry as soon as it knew what a straight line was. The lessons in *form* are at first confined

almost entirely to objects; considering surfaces, faces, edges, and corners as a preparation for the study of lines, angles, and figures. Ideas of straight and curved lines should be developed, and the different directions of the straight line should be taught. This knowledge should then be applied in drawing.

The second year the work in form should include definitions of the different kinds of angles and of plane figures,—such as triangle, square, oblong, rhomb, rhomboid, parallelogram, trapezoid, trapezium, pentagon, hexagon, heptagon, octagon, polygon, circle, etc. This work should be applied to drawing, and ideas of halves, quarters, and thirds of lines may be developed.

The third year, work in form should be confined to a simple but perfect description of the more common solids, such as cube, prism, cylinder, cone, pyramid, sphere, and hemi-sphere.

Size.—All lessons in size should be given during the first and second years. These lessons should include the proper use of such terms as express *size*,—as large, small, narrow, wide, etc.

The second year this work should include the more common and simple denominate tables relating to size,—as linear measure, dry measure, etc. Ideas of halves, quarters, etc.

Weight.—The plan of the lessons on weight is similar to that of lessons on size. The work of the first year includes the use of words expressing weight,—as light, heavy, lighter, heavier, etc.

The second year the terms pound, half-pound, and quarter of a pound, should be given and applied, and the table of avoirdupoise weight should be taught.

PLANTS.

During the first and second years *plants* are taken in connection only with object and color lessons, but in the third year this subject should be introduced for regular lessons. Specimens are necessary for these lessons. In this subject all the faculties of the mind are exercised, and also the moral nature. The child is taught to observe nature in the vegetable world and really begins the subject of Botany.

In the object-lessons which precede the lessons on plants, the children have been led to observe the natural divisions of substances, animal, vegetable, or mineral, so that they can say at once that a plant belongs to the vegetable world. The parts of a plant should next be named as *stem* and *root*. Several lessons should then be given on roots, stating the uses of the root and naming and describing the different kinds of roots. When the work on roots has been completed, similar lessons should be given on stems; these should be

followed by lessons on leaves, flowers, and fruit. All descriptions in regard to plants should be simple but correct. No technical terms should be given, Some lessons may be given on different kinds of wood, vegetable juices, gums, etc. In all of these lessons a true teacher will find ample room for moral lessons which are not cold, dry, and stereotyped, but such as are the natural outgrowth of the lesson, and will interest and improve those who listen to them.

PLACE.

Last of all, in this course of miscellaneous lessons, we consider the subject of Place, which is the beginning of work in geography. This, like all other subjects in a primary school, should be taught objectively. As was stated before, a child began the study of geography when he said "here" and "there." The first of these lessons which are given in school should be lessons in which words which indicate place and position must be used; for example,— here, there, under, over, above, below, right-hand-side, etc. Children should then be led to discover and state the *relative position of objects*, after which cardinal and semi-cardinal points should be taught in order to have them consider *places* in the same point of view.

The second year the natural features in the vicinity should be considered, and the geography of the city or town should be taught, using a map when it becomes necessary to do so.

The third year a few conversational lessons should be given on the earth as a whole; these lessons should be followed by the preliminary definitions which are necessary to the intelligent study of geography. In these lessons the consideration of the land-surface of the earth is the natural beginning; high and low lands should be defined and classified; then the inland waters. This part of the work can, and should, be taught objectively.

The fourth year maps and globes must be used; books should be introduced and used judiciously. But children at this age should not be assigned a lesson to learn in which every point has not been previously developed.

The work of the fourth year should include definitions of globe, map, equator, horizon, poles, etc. Also, the different coast-lands and waters, definitions and location of the continents and oceans, and definitions of climate, vegetation, and occupation. For children of this country the geography of the United States should occupy the remainder of the year. Particular study on this country is preferable to the general study of the continents; for when a child has been in school four years, it is time he knew something of his own country.

The following schedule of Miscellaneous Lessons for the first three years in a primary school indicates the amount of work that should be accomplished:

ORDER OF MISCELLANEOUS LESSONS.

FIRST YEAR,—PRIMARY.

FIRST FORTNIGHT.—Conversation lessons on *pictures.*

SECOND " —*Human body.* Conversation lessons. Parts of the body, parts of the limbs, joints.

THIRD " —*Animals.* Conversation lessons. Parts of a cow, cat, dog, horse, sheep, rabbit, goat.

FOURTH " —*Color.* Lessons on naming and distinguishing red, yellow, blue, orange, gray, green, and brown.

FIFTH " —*Place.* Ideas of relative position developed and terms applied; as, under, over, above, below, between, beside, right-hand side, left hand side, upper side, lower side.

SIXTH " —*Human Body. Review.* Parts of the head, parts of the face. The eye, and the sense of sight. The ear, and the sense of hearing. The mouth, and the sense of taste. (Moral lessons.)

SEVENTH " —*Animals. Parts,* considered in regard to their number and use. A hen, duck, goose, canary, peacock, butterfly.

EIGHTH " —*Color. Review.* Purple, scarlet, pink, violet, black, white, lemon, russet.

NINTH " —*Place.* Cardinal and semi-cardinal points.

TENTH " —*Form.* Surfaces, faces, edges, corners, straight and curved lines.

ELEVENTH " *Size.* Application of the terms large and small, wide and narrow, deep and shallow, deep and high.

TWELFTH " —*Human body. Review.* Parts of hand and foot. Uses of each. Comparison.

THIRTEENTH " —*Place. Review.* Location of children's homes, public buildings, etc., in regard to their direction from the school-building.

FOURTEENTH " —*Objects.* Parts and names of parts of a book, bell, knife, hat, coat, umbrella, apron.

FIFTEENTH " —*Form.* Direction of the straight line. Drawing.

SIXTEENTH " —*Size.* Larger, largest, smaller, smallest, narrower, narrowest, wider, widest, taller, tallest.

SEVENT'NTH " —*Weight.* Lighter, lightest, heavier, heaviest.

EIGHTEENTH " —*Drawing.*

NINETEENTH AND TWENTIETH FORTNIGHTS.—*Review all,* and Drawing.

SECOND YEAR,—PRIMARY.

FIRST MONTH. —*Form. Review.* Angles, triangles, square, oblong, rhomb, rhomboid. Drawing.

SECOND " —*Color.* Standard colors, tints, hues, and shades. Drawing.

THIRD " —*Size and Weight.* Ideas of halves, quarters, and thirds. Distances compared. Linear measure, dry measure, liquid measure, avoirdupoise weight.

FOURTH " —*Place.* Natural features. Map of vicinity.

FIFTH " —*Form. Review.* Parallelograms, pentagon, hexagon, heptagon, octagon, circle, circumference, diameter, radius, radii, arc. Drawing.

SIXTH " —*Objects. Qualities.* Odorous, inodorous, fragrant, tough, brittle, flexible, inflammable, porous, absorbent, elastic, liquid, natural, animal, vegetable, mineral.

SEVENTH " —*Animals.* Description of parts and habits of the cud-chewers. The cat family. The weasel family. Thick skinned animals.

EIGHTH " —*Drawing.*

NINTH " —*Review.*

THIRD YEAR,—PRIMARY.

FIRST MONTH. —*Form. Solids.* Cube, prism, cylinder, cone, pyramid, sphere, hemisphere. Drawing.

SECOND " —*Place.* High and low lands, mountains, mountain range, mountain system, mountain peak, volcano, table land, hill, valley, plain.

THIRD " —*Animals, birds.* Swimmers, Scratchers, runners.

FOURTH " —*Objects.* Qualities and uses of cork, sponge, water, milk, glass, etc.

FIFTH " —*Place. Review.* Inland waters. River, mouth, source, banks, etc. Lake, head, foot shore, etc.

SIXTH " —*Animals.* Perching birds, waders, birds of prey.

SEVENTH " —*Form.* Drawing.

EIGHTH " —*Objects.* Growth and cultivation of tea, coffee, sugar, etc.

NINTH " —*Plants.*

TENTH " —*Review all.*

[To be continued.]

MACBETH AND LADY MACBETH.—A STUDY.

BY ALICE E. CARTER, FRANKLIN, MASS.

A child may gaze in wide-eyed wonder at the sea. Its deep blue, its madly-leaping waves, its long, white ripples on the sand may delight him. If a lavish tide lay at his feet tinted shells and rounded pebbles,—if only one of either,—that is his portion; but to affirm what elements compose the mass, to sound its depths, and tell of its resources, and explain its mysteries of motion, are for the scientist. So the simple student may read with wondering enjoyment this great tragedy, *Macbeth*, but it is not for his own wisdom to determine its natal day, nor to decide how much of it is from Shakespeare's own hand, and how much from contemporary assistants or later revisers. Neither is it for him to criticise wisely the plot and action, nor to dilate upon its words and phrases. His portion is that which his mind can as easily grasp and hold, as the tiny palm of the child can clasp the shell. The *characters* of the play, then, are the student's rich portion. Schlegel has said, "Earnestness is the essence of tragic representation." He also says, "Earnestness is the direction of our mental powers to some aim." Because of her earnestness, Lady Macbeth is the most tragic character of this play.

There seem to be as many Lady Macbeths as there are critics upon this tragedy, since each one has, in words, painted her unlike any other one's representation, and no one wholly like the original,—Shakespeare's portrait of her. Would it be possible for a student who had never read the play to conceive what she must have been, were he to read all the critics? The Germans would exalt her into a character of rare virtue; the French would pronounce her a depraved woman. One represents her as the tempted, the other as the tempter, in the crime which darkens this tragedy. Not long since one woman exclaimed, "Lady Macbeth! what a villainous character!" Yet no woman-critic has yet condemned her as wholly unworthy. Some one has recently proved by logic that the much-slandered Xantippe was an amiable and docile spouse. Surely, only by some syllogism could Lady Macbeth be proved less than an accessory to a terrible crime. It is not attempted to prove her an innocent woman, but to urge all who analyze her character to gaze as long at the good in it as at the evil.

Involuntarily the wish comes that the poet had told us the exact ages of this ambitious pair, Macbeth and Lady Macbeth, and had given us some hint of their personal appearance. Would it not help us to better understand them? Freisen, a German author, argues very reasonably that they were "not at all advanced in age." Mrs. Jameson pictures Lady Macbeth as an exception, in personal appearance, to the Celtic race. Mrs. Siddons imagines her a delicate blonde beauty. Bucknill pleases to call her "a tawny, blonde Rachael, with gray eyes," and adds, "*Probably she was small, for it is the smaller sort of women whose emotional fire is most fierce.*" Campbell, however, called her "a sister of Milton's Lucifer, externally majestic and beautiful." All this proves that each one may have his own ideal.

Before my eyes Macbeth and Lady Macbeth stand pictured thus forever: He, a stalwart Scotch soldier, of noble physique, just in early manhood she, in early womanhood, wondrously beautiful externally, of that type of beauty which inspires passionate love in a man like Macbeth; viz., a petite, lithe figure, whose every attitude and motion display a nameless grace; her Celtic ancestry gives her fair hair; her face possesses that cold, white beauty which repels while it attracts. Her eyes are dark blue, fascinating, treacherous, cruel,—before their gaze one quails. Macbeth loves her ardently. Her's is a cold nature, kindled into its only possible warmth by the power of his love toward her. All the affection of which she is capable she gives to him, and in it she is constant. His fierce love burns out to the ashes of selfishness. In the heart of each lies innate ambition, the dominant passion in each. It is a fateful bond of sympathy. Circumstances over which, as free and responsible beings, they have a certain control, press upon them. Instead of resisting their temptation they yield, and terrible events follow.

The circumstances are: for Macbeth a prophetic salutation by the "wierd sisters," immediate office, and the honor of the king's visit. The events that follow: murder, sovereignty, remorse, and retribution for each; insanity and self-destruction (probably) for her; defeat and death for him.

Says Lamartine, "Such is Macbeth! It is crime! It is remorse! It is the weakness of a strong man opposed to the seductions of a perverted and passionate woman." Rather, would we say, it is the weakness of a cowardly and selfish man whose insatiable ambition alone is his ruin and hers. The guilt of conceiving the idea of the murder is not hers, and the guilt of the deed, Macbeth's alone. We have the play itself for authority in this assertion. Murder has

been in his thought long before his meeting with the witches; there is nothing in their words to suggest a crime, but rather to withhold from it. "All hail, Macbeth! that shalt be king hereafter," they say. Guiltily he starts; then becomes oblivious of all surroundings. He broods over the prophecy.

> "If Chance will have me king, why Chance may crown me,
> Without my stir,"

he exclaimed one hour; but in another,—

> "Stars, hide your fires,
> Let not light see my black and deep desires."

Then he writes to his wife,—and in this fragment of a letter the poet gives us the key that unlocks the secret purpose of Macbeth's heart:

> "This have I thought good to deliver to thee, my dearest partner of greatness, that thou mightest not lose the dues of rejoicing by being ignorant of what greatness is promised thee."

To me the sound is, "What greatness *I* promise thee." Previous to this letter he has surely in some way revealed to her the blackness of his heart, for later, in anger at his fickleness, she exclaims:

> "What beast was it, then,
> That made you break this enterprise to me?
> When you durst do it, then you were a man."

These are very significant words. Do they not point to some preceding plan of his, which the poet, with true art, does not otherwise make manifest? The origin of the crime is in the heart of Macbeth, and, yet, had there been no Lady Macbeth he would, though he dallied with the knife, have used it at last. We know the impression of this letter on Lady Macbeth:

> "Glamis thou art! and Cawdor! and shalt
> be king hereafter."

she exclaims, and from this moment dates her share in the crime. Wretched captives to ambition, bound by the same chain, one cannot go forward nor backward now without dragging the other! It is not that she is more desirous of the throne than is Macbeth; not that she is inured to wickedness; not because of her great love for her husband; but because of the oneness of their ambition, and her greater earnestness, that she instantly prepares for action. Macbeth, her lord, has already pointed out the path to power,—it will lead over the

body of their king, but that matters not. A strange thing happens. From this moment the fate of Duncan is in *her* hands. It is she who leads, and Macbeth who follows as a creeping shadow. Behold how markedly self-reliant she is!

> "Hie thee hither! that I may pour *my* spirits in thine ear,
> And chastise with the valor of *my* tongue."
>
> * * * * * * * *
>
> "The raven himself is hoarse
> That croaks the fatal entrance of
> Duncan under *my* battlements."

And again:

> "You shall put
> This night's great business into *my* despatch,"

and:

> "Leave all the rest to *me*."

She towers above him in superiority of intellect. This is one reason of her influence over him. Knowing his consuming desire, her firm mind having once determined to attain the crown with her husband, her spirit of resolution makes her dare anything. With her perseverance, there is no thought of retracing her steps. "If we fail?" asks Macbeth, once, trembling. "We fail!" comes promptly, with superb scorn.

There is nothing to hold her back from crime. She lacks in her nature any touch of piety; she is utterly devoid of superstition; for her there is only a conflict between her ambition and her womanliness. What else is shown in her fierce soliloquy? When she has once steeled herself, there remains only the task of continually bringing back to his purpose her fickle husband.

On the other hand, let us glance at Macbeth. His seems the finer nature, and hence is more susceptible to temptations of any kind. It is like an Æolian harp,—responsive to the lightest breath of fair or foul influence. It is almost impossible to define his traits of character. They are like kaleideoscopic bits: in different poises the grouping differs. In battle he is brave, but before an hallucination of his own brain, despicably weak. Now he is loving and tender; again, cold hearted and selfish, He is imbued with darkest superstition, possesses a "fatally facile imagination," and a surface-show of religious feeling. So he vacillates, and, as it were, plays with the dagger that he fears to use. There is no conscience in his dalliance, but only the miserable dread of possible consequences to himself when the deed is done. Each word betrays this.

If we look closely into all the actions of the two, we shall be led

to believe in their youth. Duncan comes to the castle of Macbeth. With indiscretion in word and action, the treacherous hosts hurry to the execution of their fell purpose. *He* gives Banquo cause to suspect him; *she* almost betrays her purpose to the messenger Their hospitality to the king is overdone. Macbeth leaves the supper-room, causing inquiry to be made for him; together they agree upon *the signal of a bell* for the moment to commit the crime at which we shudder; he kills the chamberlains; *she* faints in the hour of discovery. All this seems to prove their inexperience in crime.

Through all these terrible scenes, whose horror the poet has deepened by so much of the supernatural, Macbeth leans upon his wife, is inspired with courage by her taunts, unconsciously learns from her dissimilation and self-control,—of which he makes use later,—and, in terror after the deed, is soothed by her calm.

But behold his selfishness! On the morrow succeeding this night of horror comes the discovery. The physical strength of the man is not affected by the severe mental strain. It is otherwise with the woman. From the moment of unnatural excitement when she invoked the aid of the "spirits that tend on mortal thoughts" until that of discovery, there has been no respite for her. The cord, too long and too tensely strained, snaps,—the bow is useless.

"Look to the lady!" cries Macbeth. Is he too cowardly or too selfish to support her now? Were it possible to believe Lady Macbeth an Amazon in stature and strength, endowed with a mind gross enough to accord with such a body, then her fainting could not be real,—must be feigned. Then to believe in her subsequent insanity, which assumes such a delicate nervous organization as would ill compare with a mass of bones and flesh, one must believe her womanish swoon genuine.

Very soon we find the remorseless Macbeth plotting for the "taking off" of Banquo. Ah! surely it was not the sin, but the odium of the deed that had daunted him. A thrall to ambition, cruelty is his only service now! This second crime is easier; he needs not a *woman* to help him, but can use a woman's arguments to hired murderers! Is it wholly policy, or only cowardice, that prevents him from taking with his own hand Banquo's life?

But Lady Macbeth,—we hear one sigh in secret from her: "Naught's had; all's spent." Is not this incipient remorse? Macbeth breaks in upon her discontent, and in a flash her tone is changed to light bantering of her husband. Call it affection, or pride, or a subtle fear of him,—whichever emotion it may be,— is she not at this moment a *womanly* woman?

We have but two other glimpses of Lady Macbeth. First, the banquet-scene, when, for the moment, forgetting what crime has placed "the golden round" on her brow, we bow before her whom majesty clothed so regally.

Not so Macbeth; he is a poor courtier, and can make but sorry semblance of kingly dignity. Suddenly elated by news of Banquo's assassination, and as suddenly depressed by the word, "Fleance is 'scaped," he is absent-minded, and forgets to give the cheer to the feast, and is thrown into a paroxyism of terror by an hallucination of his own over-wrought brain; that is, by the seeming apparition of Banquo at the feast. This is the beginning of retribution for him. Since conscience is nearly dead, he may be tortured through his imagination.

Lady Macbeth is no accomplice in Banquo's murder. She is wholly unimaginative; hence the ghost of Banquo is not for her vision. Not one of the assembled lords beholds it. Macbeth's piteous surprise at their equanimity,—

> **"You can behold such sights,**
> **And keep the natural ruby of your cheeks!"**

and their honest query, "What sights, my lord?" are proofs of this. If only Macbeth beholds it, and since it neither speaks nor acts, but simply comes and gazes upon him, freezing his blood and blanching his cheeks, it cannot be a spiritual manifestation, like the ghost in Hamlet.

Mrs. Siddons believed that Lady Macbeth saw the apparition. Others have believed that to her vision there was nothing save an empty chair, the vacant seat of Banquo. Yet had there been in reality a spirit, with her marvelous power of self-control and her diplomacy, it would have been possible for her to gaze undaunted upon it. She would have retained her composure,—would have made the self-same exclamations of scorn: "Proper stuff!" "What, quite unmanned in folly!" "Fie, for shame!"

Her silence after the banquet comes strangely, but with surprising beauty, after her fine sarcasm in presence of the guests. A woman less great would have chided Macbeth in anger, or have become sullenly silent. Is her silence any proof of her great love for her husband? May it not result either from the impossibility for such a woman to act otherwise, or else from her own utter weariness and despair?

In the latter portion of the drama Macbeth, the ruthless tyrant, is continually before us; but we lose sight of Lady Macbeth for a time. When next she appears it is as the haggard somnambulist, a piteous wreck of the once proud, strong woman. Gervinus calls her "the

remorseless Lady Macbeth." Could there be any more terrible remorse than that which gnawed at the heart, crazed the brain, and destroyed the physical strength? Sovereignty proves but doubtful joy for her or for him. She beholds the gradual crumbling away of their throne; he who should be her prop, selfishly leaves her. Alone, with no *confidante*, in marble silence she suffers; insanity results; and now, in "slumbry agitation," she is doomed to re-live each detail of her own crime; and even to bear the burden of her husband's crimes, for he has, to ease his own mind, poured into hers the story of his own dark deeds. With anguish indescribable she rubs her little hand of its one spot, then sighs in a heart-breaking way.

It is hard to say little, wiser to say nothing, of the incomparable pathos of this sleep-walking scene. Truly, "More needs she the divine than a physician." It once seemed to me an incongruity to believe that Lady Macbeth died by "self and violent hands"; now it seems only natural; it only emphasizes her remorse,— it is fitting retribution for her.

"The queen, my lord, is dead," is the word at last brought to Macbeth. Tyranny and ruthless cruelty have smothered all that is noble in his soul. Coldly he hears and replies; but after one moment's reverie, returns to further preparations for the siege. We hear from his lips,—

> "I have lived long enough: my way of life
> Is fallen into the sere and yellow leaf."
> . . . "I 'gin to be a-weary of the sun."

Yet at the last he clings to life and fights for it with mere animal instinct. His retribution is just and fitting.

DOES THE COMMON SCHOOL EDUCATE CHILDREN ABOVE THE STATION THEY ARE EXPECTED TO OCCUPY IN LIFE?

BY WM. T. HARRIS, LL.D.

Do the public schools educate children beyond the position which they must occupy in life?

Why educate the child out of his sphere? Why teach him to aspire beyond the position which the vast majority must always occupy?

These are the questions which are often asked in the days of reaction, when every established institution is saluted with the challenge, "*cui bono?*" and not allowed to pass on until it has given the countersign, "*pro bono publico.*"

Why should we educate children in common schools, at the public expense, at all? Why should we provide opportunity for any and all children to acquire a thorough education?

We are to find the answer to this question by investigating the special conditions of society in modern civilization, and by studying the requirements of the political government under which we live. We are accustomed to accept without dissent the proposition that in a government founded on the ballot-box, universal education is the only safeguard. It is not so obvious to the questioner, however, that the social conditions of modern civilization demand the school-education of all the people. Let us, therefore, consider first this necessity of the nineteenth century before we review the requirements special to our own nation.

It is agreed that this age is one of productive industry. Its active principle is invention; especially mechanic invention. Every day we hear of some new discovery that harnesses a force of nature and compels it to work for man and assist in providing means of food, clothing, and shelter, or means of intercommunication and the spread of knowledge. Mind, — not the body, — is the inventive power; the directive power that can manage and use machines to advantage is mental, and not physical, skill. The growth of invention is so rapid that the increase of manufacturing power by the aid of machinery is said to double, for all the world, once in seven years. The multiplication of steam-engines, and the improvement of ma-

chinery, renders this possible. What unintelligent hand-labor is there that has any certainty of being in demand ten years hence? More than this, what trade is there that can count on using, ten years hence, just the kind of technical skill that it requires now?

The history of the present era of industries shows a continual shifting of vocations,—no vocation having any long lease of life. The new discovery will make the trade learned to-day, after a long and tedious apprenticeship, useless to-morrow. Any peculiar knack which depends on manual dexterity may be rendered valueless by a new application of machinery. The practical education, therefore, is not an education of the hand to skill, but of the brain to directive intelligence. The educated man can learn to direct a new machine in three weeks, while it requires three years to learn a new manual labor. The hand, trained for twenty years at one kind of labor, cannot learn a new work requiring different skill, because the muscles have become set and stiffened into one form of action. An uneducated workman will be thrown aside to perish in an almshouse. Only the versatile intelligence is able to meet the demands of the age of productive industry. We are sometimes told by political economists that the fault lies in the unwisdom of the governing power. Inventions should not be permitted. The Chinese government, we are assured, is paternally watchful in this matter of protecting the laborer in his vocation. No mischievous inventions are allowed to supersede the good old ways of production. But then man can make no progress in the conquest of nature without mechanic invention. All but one in a thousand will be doomed to toil like slaves for a scanty pittance of food, clothing, and shelter if no aid is to be invoked from machinery.

The evil arising from the change of vocations rendered necessary by new inventions can be relieved by two measures. First, the facilities of immigration into uninhabited border-lands offer to all peoples pressed for room in the old homes, and to all poorly-paid laborers, the opportunity to remove to localities where they may till the rich soil or set up their mechanical industries for the benefit of a new population in need of their wares. Hope and courage are stimulated in the new immigrant by the spectacle of the results of his labors which convert a wilderness into a civilized country in a short time. The second measure to remove the evil of change of vocation is to educate all laborers, and thereby make them versatile and able to pass from one kind of labor to another without tedious training and waste of power.

But we are told that all this education makes the common laborer

aspire to become a professional man. He ought to be contented with the lot in which he is placed by the accident of birth. The more educated intelligence, the more invention. The more conquest over nature by invention, the more aspiration in the mind of the individual. To be a drudge ought not to satisfy any human being. Perpetual growth in knowledge and wisdom, in the realization of reason and the image of the God-like, is the vocation of man. To be discontented with the real is, therefore, the lesson of civilization

"Education makes people indolent and unwilling to get their living by honest labor," we are told. It is likely that the man who has learned the magic power of science and art to subdue nature will not willingly offer himself a sacrifice to bodily wants, and accept a vocation that requires mere manual labor. He will desire a position that employs his intelligence as well as his hands; for he wishes even his labor to recognize him as something above a beast, and as possessing reason and knowledge. But all this talk about indolence as a consequence of knowledge is without a basis of fact.

The race to which we as a people belong is not an indolent race. Look at its history and study the magnitude and quality of its achievements. Why has it done all this? What would it have done if it had not had ambition, and aspiration, and much heart-hunger? Have not the Anglo-Saxon and Norman races been the most discontented of races on the planet? What contented race is there that has accomplished anything for which mankind are the better? Our civilization rewards the workman who is looking beyond the machine he is using to a better one that he has conceived in his mind. Arkwright, Whitney, Fulton, Stevenson, Morse, and Bessemer are held in high honor as heroes in the conquest over nature.

It is clear that all the bodily wants of man,—food, clothing, and shelter,—depending as they do upon the ownership of property for their satisfaction, are through this means elevated and spiritualized by the institution of society. For property is not the creation of the individual; mere possession does not suffice; it is the recognition of society that makes things become property. Civil society establishes rights of property and division of labor. Through this each man labors for his fellowmen, and depends upon their labor to supply him the articles of food, clothing, and shelter which his own labor does not produce. His bodily wants are no longer mere immediate impulses, as animal wants, but they are converted into the instruments of realizing man's spiritual or reflected being; he is forced by hunger and cold to combine with his fellowmen and to form a community in which he is to respect their recognition far more than his animal im-

pulses and desires. Thus, too, the institution of the family lifts man above mere sexual passion, and makes him in that respect a reflected being, a rational being. Civil society is organized for the realization of man's existence as a property-owner, so that he shall be a universal or rational essence, and not a mere individual animal, dependent on his mere locality and the season of the year and his unaided might for his physical life. Through civil society each individual commands, by his own feeble efforts, the resources of the entire globe. The organization of civil society is so perfect that every day's labor of the wheat-grower affects the price of wheat all over the world. Every day's labor in the mills of Lowell or Lawrence affects the price of cotton cloth in Australia. The day-laborer in the streets of this city commands with his meagre wages to that extent a share in the coffee of the distant Indies, the sugar of Louisiana, the tea of China, the drugs of South America, the fruits and grains, the manufactures from all sections of the country.

The fact that conscious intelligence,— directive power,— controls the property of the world, is too obvious to need re-statement. I call property a "reflected being," because it exists only through the recognition of society. Things exist, it is true, without such recognition; but things do not become property until society confirms the right of ownership. Such recognition is always an act of directive intelligence. The rights of property can be conserved only through an educated class. The higher kinds of property, such as vested rights and franchises, imply a high intelligence in the community. Again, the possibility of possession of property by all in this country adds new validity to it here, and makes it more valuable. That you can alienate your real estate makes it property in a complete sense. If it is entailed it is only part property. The free possession of property, without feudal liens and tenures,—the dead hands of the past owners still clutching the symbol of their reflected being, — comes to existence only when a government of all the people, for all the people, and by all the people prevails, and when it is rendered possible through universal education. Who would own real estate in Turkey? Who would accept a Russian estate, on condition that he must live on it and assume its responsibilities? No one of us, I think. The quality of property,—its intrinsic value,—depends upon the quality of the community who recognize it. The status of the "reflected being" is the status of those who reflect it. Property in a refined and cultivated community is raised to a high potence of value; in a barbarous community it is not worth the risks incidental to its possession. In proportion as man is educated, he sees the sub-

stantial character of reflected existence, and this perception creates continually new kinds of property founded on new recognition, — bodiless possessions, "incorporeal hereditaments," that receive their substance from conventional recognition.

The growth of corporations is the wonder of this generation; they do what the individual never could do for himself, and yet needs to have done in order that he may gain freedom from thraldom to nature. The individual could not afford to obtain pure water from the distant hills, or establish gas-works, or own a railroad, or a telegraph, or express system. Corporations furnish him all these things. If corporations abuse their power sometimes, this is because society has not yet learned where to place legal restrictions upon them, and is another illustration of the necessity of education in the community.

Thus not only does the culture of civilization increase the alienability of property, and hence its value, but it develops into property a vast series of relations of the nature of franchises, which, in a rude, unpolished age, are mere rights of the strongest, and non-transferable to the common people. Hence property, in the highest sense, cannot exist except it be taxed for universal education. For universal education will not exist unless it is provided for by the State, and unless the State supports it wholly or in part by taxation.

Macaulay, in the House of Commons, in 1847, defending the minutes of the Committee of Council on Education, to which he, as member of the Privy Council, had given consent, gave a vivid picture of the condition of Scotland, contrasting the thriftlessness of a people before education was established by law with the thrift that followed government action in behalf of schools. He said:

"It was at the end of the seventeenth century that Fletcher, of Saltoun, a brave and able man, who fought and suffered for liberty, was so overwhelmed with the spectacle of misery his country presented that he actually published a pamphlet in which he proposed the institution of personal slavery in Scotland, as the only way to compel the common people to work. Within two months after the appearance of the pamphlet of Fletcher, the Parliament of Scotland passed, in 1696, an act for the settlement of schools. Has the whole world given us such an instance of improvement as that which took place at the beginning of the eighteenth century? In a shorttime, in spite of the inclemency of the air and the sterility of the soil, Scotland became a country which had no reason to envy any part of the world, however richly gifted by nature; and remember that Scotchmen did this, and that wherever the Scotchman went,—and there were few places he did not go to,—he carried with him signs of the moral and intellectual training he had received. If he had a shop he had the best trade in the

street; if he enlisted in the army he soon became a non-commissioned officer. Not that the Scotchman changed; there was no change in the man; a hundred years before, Scotchmen of the lower classes were spoken of in London as you speak of the Esquimaux; but such was the difference when this system of State education had been in force for only one generation; the language of contempt was at an end, and that of envy succeeded. Then the complaint was, that wherever the Scotchman came he got more than his share; that when he mixed with Englishmen or Irishmen, he rose as regularly to the top as oil rises on the water."

Turning from this economical aspect of the question to the political requirements that specially concern our own people, we shall discover that we, in America, have much more to urge us to establish common-school education than this demand of the age of invention for intelligent labor. We have permitted universal suffrage, and the government of the majority. If we do not have universal education we shall all suffer for it. For we are tethered to the lowest stratum of our population, and must accept their influence in our politics. Nothing but education will ameliorate it.

The lover of his kind rejoices in the knowledge that here in America we have so organized our society that the welfare of the highest is connected, indissolubly, with the lowest, so that each and all must, in the main, see clearly that he is his brother's keeper, and realize the solidarity of the social whole. Each man is what he is, not through himself alone, but by and through the reflection thrown back upon him from the social whole in which he lives and has his being. Under monarchies and despotisms the same fact was true, but there was such a mirage created by the principle of caste that it could not be seen clearly except by deep thinkers. Here it is visible, for the common laborer is also a voter, and participates in making the laws of a free government.

We say, therefore, to the aristocrat who grudges his contribution to the common schools, or who looks askance and asks, "Why educate the children of the common laborers?"—for your own well being and the well-being of your children, the children of all must be educated. For here all, and not the few, govern. If you wish property safe from confiscation by a majority composed of communists, you must see to it that the people are educated so that each sees the sacredness of property and its service to the world in making available to each the industry of the entire population of the earth. The study of geography in our common schools is one long lesson in the dependence of each people on all others through commerce. The industry of each nation is not the industry of individuals to supply

their own immediate wants, but an industry which pours its productions into the markets of the world, and in return receives its just share of the productions of all climes and seasons. Geography is the scientific presentation of this process of producing and distributing the material blessings of civilization. How this is all accomplished is stated in a systematic exposition addressed to the thinking intelligence of the child or scholar. For geography tells us what each place produces and supplies to the rest of the world, and thus exhibits the dependence of all on each and of each on all. Is there any study better calculated to interest him in the conservation of those great social institutions based on property? Not, indeed, unless it is the study of human nature as revealed in those best selections from literature contained in his school-readers. In his reading-lesson he finds the poetically-inspired expression of his deepest and purest feelings, of his subtlest insights, of his truest moral instincts. Out of the dim region of semi-conscious instinct they come forth to the light of conscious conviction and felicitous expression in words, — and all this through the study of reading in the common school! Here he gets not only social science, but also moral culture. The soul of the child of the common laborer kindles with aspiration as he reads burning words of patriotism and immortal valor, of disinterested heroism and self-sacrifice for others. He feels his inborn divinity as he reads of the triumphs of his race, and sees in the visions of poets the lofty ideal of the future set before mankind. All this is not wanted, we are told, in the children of the common laborers. If not, we are sorry for the person who does not want it. He is so blind that he does not see the shore of Charybdis when he steers away from Scylla, — he steers away from a restless and adventuresome class of people, but only to run into the evil alternative of a people leagued together against capital, full of communistic dreams about labor and wages, with no broad humanitarian feeling, with patriotism rooted out by international association against the rights of property. He is willing to have a proletariat elect his legislators, if only he can find cheap bootblacks and house-servants.

It is indeed a great thing to have even one class of society educated. No doubt all profit by it, even when the education is confined to the few. But in a democracy all must be educated. The interest of property demands it, the interest of the government demands it. And one generation of well-educated people in a State forces upon all adjacent States the necessity of public education as a mere war measure, as a means of preservation of the State. So also will the existence of one successful democracy force upon this world the adoption of democratic forms of government as the condition of their

continued existence. An ignorant people can be governed, but only a wise people can govern itself.

Where all are educated, and directive power exists on every hand, it finds its employment chiefly in building up the wealth of the community. The directive power required every day to manage the large banks of this country, to direct the great railroads, or the manufactories and corporations of various kinds, is infinitely more than that required to direct our government. The management of the New York Central or the Pennsylvania Railroad system is as great an affair as the government of a small kingdom.

Self-directive intelligence makes for itself avenues of employment. Directive power is the only power that is never wasted.

Within the past twenty-five years great strides have been taken by European governments in establishing systems of public education. It has been seen, clearly, that unless the laborer was educated the industrial product would be inferior and come to be discriminated against in the markets of the world. Technical education thus began at South Kensington, for England, as it had been before established in France and Germany. The foresight of the Great Frederick, backed by the religious dogmas of Luther, secured general education to his people. The weight of the Prussian people in war came to be seen in their Austrian and French campaigns. Since these wars, public education has received an enormous impulse. Not merely the industrial success of the people, but national independence itself, seems dependent on the general education of the people.

The education of the people as a military necessity, although it has come to have a new meaning in Europe since the Franco-Prussian war, is not, after all, anything new. The directive power of a people has always been given the best education that the nation was able to furnish.

If we turn for a moment to the actual history of nations, we shall find public education in some sort or other always existing. The only point is to inquire in what does the directive power of this people exist, to find at once where the public money is used for educational purposes. In China, for instance, the schools are supported by the people in their private capacity. But the government rewards those successfully graduating by its offices. Hence, the money advanced for education is only an investment in public securities.

In all countries the military education is at public expense. Where does the support and education of the nobility and royal families come from except from the public? They do no immediate work. They are going to direct, and have others obey. But in our country, where each is born to all the rights of mankind without distinction,

all must be provided for. Not by pauper schools, for that would be to burn into the public mind of the youth his misfortune, and he never would outgrow the stigma. Neither is it safe to leave the education of the youth to religious zeal or private benevolence, for then inequalities of the most disastrous kind will slip in, and our State find elements heterogeneous to it continually growing up.

The government of a republic must educate all its people, and it must educate them so far that they are able to educate themselves in a continued process of culture extending through life. This implies the existence of higher institutions of public education. And these, not so much with the expectation that all will attend them, as that the lower schools, which are more initiatory in their character and deal with mere elements, depend for their efficiency upon the organization of higher institutions for their direction and control. Without educating in higher institutions the teachers of lower schools, and furthermore without the possibility hovering before the pupils of ascent into the higher schools, there can be no practical effect given to primary schools.

If the monarchies of Europe think to put off the people with mere polytechnic and industrial education, they will find that they have fostered a directive power that will grope for and find the helm of State, and then attempt to administer the government. The mistake will then become visible. Man will not submit to be educated simply as a director of machines and instrumentalities of industry. He soon aspires to direct himself and be self-governed. To be sure there is a long step from the mere hand-laborer, the one who turns a crank or carries a hod, the galley-slave who works chained to his car,—there is a long step from the mere physical laborer to the director of a machine, to the engineer, the overseer of a loom, or the manager of a telegraph. The former is all hands; his own brain even is a mere hand, governed by the brain of another, who directs him. But when directive power develops so far as to direct and govern machine-labor, nay, even when it is so far cultured as to reach the principles of natural science and be capable of applying these in mechanic inventions, even then it is not at its summit of realization. It will stop at nothing short of the spiritual culture that makes it alike directive and governing in the sphere of mind, the realm of social, moral, and intellectual existence.

Human instruments, whether mere hod-carriers or locomotive-engineers, will not stay contentedly as instruments; they aspire to transcend their hard limits, be they ever so near or never so far off. The higher already, the greater the aspiration. Blind aspiration, from which enlightenment is carefully shut out, leads to July revolu-

tions and reigns of terror; over the ashes of the burnt-out volcano of popular frenzy marches Napoleonic imperialism with cold, unsympathetic step toward the return of Bourbonism and absolutism.

Not only mechanical directive power shall be taught in the people's schools, but also spiritual directive power. The snobbery that patronizingly talks of the education of the lower "clahses" does not know that the industrial civilization it affects to admire is an instrument that only Democracy can wield; — leave out the humanities from that education, and you leave out the culture that can guide its course, and Communism and Socialism and abstract theories will find their way quickly into the heads of the laboring classes. No merely industrial education can prevent the mind of the people from being flyblown with crazy political aud social theories, destructive to the State. Not merely natural philosophy, chemistry, mathematics, and biology must be studied, but likewise the science of society of the State, of art, religion, and philosophy, in all their phases. The great educators of the race,—Homer, Dante, Shakespeare, and Goethe, Plato, Aristotle, Leibnitz, and Newton, — these must be made accessible to the people. Each child must be waited on by the institutions of man and invited to see the spectacle spread out before him from the lofty summit of civilization; his human brothers that have added a cubit to the world's stature by their heroic labors, must be pointed out to him; the methods and results of their attainments must be revealed to him; noblest aspiration and earnest self-sacrificing endeavor must be aroused in him as the means of achieving his individual task in life. The whole world of the past and present is made, by education, the auxiliary of each man, woman, and child.

Is it not the duty of the State to make the practice of the good possible? This is the definition which a western statesman has suggested as a substitute for that other definition which says that a State exists for the protection of property,—"The State exists in order to make the practice of the good possible."

Says Macaulay, in the speech from which I have already quoted:

"I hold that it is the right and duty of the State to provide for the education of the common people. . . . I say that the education of the people ought to be the first concern of a State, not only because it is an efficient means of promoting and obtaining that which all allow to be the main end of government, but because it is the most efficient, the most humane, the most civilized, and in all respects the best means of attaining that end. . . . Sir, it is the opinion of all the greatest champions of civil and religious liberty, in the old world and in the new. [Here he refers to the Pilgrim Fathers, and their insight into the necessity of popular education.]

. . . Those men, forever illustrious in history, were the founders of the Commonwealth of Massachusetts. But though their love of freedom of conscience was illimitable and indestructible, they could see nothing servile or degrading in the principle that the State should take upon itself the charge of the education of the people. In the year 1642 they passed their first legislative enactment on this subject, in the preamble of which they distinctly pledged themselves to this principle, — that education was a matter of the deepest possible importance and the greatest possible interest to all nations and to all communities, and that as such it was, in an eminent degree, deserving of the peculiar attention of the State."

To the believer in caste we would finally address ourselves. We would say: All the studies of the common school are conservative in their character, because they all open the windows of the soul and give the mind insight into the substantial character of the institutions of civilization. They all tend to produce the conviction that the well-being of man is best furthered by the very instrumentalities that have been discovered and elaborated by the race, and especially by modern civilization. Reading, writing, arithmetic, geography, history, and grammar, all open the soul to light on the question of subduing nature, or on the question of the character and destiny of the human mind as revealed in language or social usages, or political forms and changes. The good school, moreover, teaches industry effectually. But its industry is that of directive intelligence, because the progress of civilization supplies more and more the machinery to perform menial service, and makes it necessary to educate all into directive intelligence. Your opposition to the system of public schools may result in their loss of popular favor.

Their loss of popular favor will result in stinting their support, and decrease of appropriations will drive away the best and most enterprising teachers. But the final result will be averse to the education of the less intelligent classes. They will come by degrees to undervalue education altogether. The common schools being under the ban, there will be no pressure of public opinion to cause attendance upon them. Besides, they will be in reality inferior, because their excellence depends upon their patronage by the better classes in a large measure. That school which educates all classes in it is the most wholesome in its influence, because it helps the lower social rank by association with finer manners, while it helps the higher social rank by bringing it into a better knowledge of human nature by associating it with simpler and more direct manifestations of character, — the poor classes being better studies for human nature, because more impulsive and less under the control of social forms which disguise

the manifestation of native inclinations and impulses. Inasmuch as the hope of civilization depends upon the elevating influence of the educated and cultured classes upon the lower and lowest strata, it follows that our educational system should see to it that the cultured class thoroughly understands and sympathizes with the lower classes, who lack knowledge or wealth, or both. I say sympathize, because I take it for granted that no American deems it desirable or possible to oppress the lower classes, and keep them down. We have universal suffrage, or something approaching to it. What we permit our neighbor to be, that we set up as the arbiter of our political well-being; for his ballot will determine our government.

The caste principle can find no encouraging sign for it above the horizon of the world's history. The foxes indeed have holes, and the birds of the air have nests, but the advocate of the principle of social inequality as the goal of education has no place where he can lay his head on this planet, and enjoy a sweet and refreshing repose. If he goes to Russia, there is the Nihilist and the boiling-up of the nethermost depths in the name of revolution and negation. If we must regard civilization as necessarily implying caste and inequality, says the Nihilist, let us place dynamite under the whole structure and blow it into the air. No peace there.

If the lover of caste and inequality as the goal of humanity goes to India, seeking his ideal in the country whose part in the progress of history was to differentiate this caste principle, and show it in its reality,—causes and consequences growing on the same tree,— there, too, he may no longer find the divine Brahminic code permitted in its fullest sway. It is in process of withdrawal from the face of the earth, thanks to the British administration of criminal law, and the conceded right to freedom of conscience. For the British aristocrat does not believe in the divine right of the Brahmin, descended from Brama's head, but finds the warrior's caste and the merchant's caste of equal or superior right, and he feels the necessity of recognizing the new avatara,—the eleventh avatara of Vishnu, under the form of the steam-engine,— the avatara of productive industry; and so he confers knighthood on great inventors and manufacturers,—as on Sir Henry Bessemer. As for the exclusiveness of the Brahmin caste, as it exists in England or Boston, why, any one may become a Brahmin, or learned pundit, by sacrificing with midnight oil to the knowledge of the modern Vedas; namely, to literature, science, or history. In India the believer in caste wavers, and then goes over to Mohammedanism, or at least over to Buddhism, which is the Nihilism of ancient times. For the Buddhist placed the dynamite of his doctrine

of Nirbana under the caste system of India 2300 years ago. Those Nihilists were then driven out of India, but they can now have all their rights and privileges under Britsh rule.

Shall the lover of caste go to China? Alas, no! In China there is the possibility of ascending to any position short of that of Emperor by success in passing the four-fold system of examinations which are established underneath the national system of education. There is no rigidity to the caste system of China, seeing that it permits all to ascend, even from the lowest, and leaves it to each to determine his status by his scholastic triumph over the difficulties in the Chinese alphabet and the classics of Confucius and Mencius.

Does the critic of our school system who believes in caste, and asks, "Is it wise or best to educate our children beyond the position which the vast majority of them must always occupy?" suppose that reading, writing, and arithmetic are studies too high for the lowest mechanic or day-laborer in a country where his vote counts as much as that of the wisest and richest man? Or does he, perhaps, suppose that all the people are already past the three R's, and briskly advancing into the intricacies of philology and classical archeology? Who has told him this? The census of our country for 1870 said: "Of the population over ten years of age, 5,658,144 cannot write; 4,880,271 of these are native born, and 777,873 are of foreign birth; 2,750,000 of these illiterates are colored. The total population of the nation over ten years of age is 28,228,945. Hence 20 per cent. of the population over ten years of age could not write in 1870. In Massachusetts, even, there were 97,742 who could not write,—89,830 of these being of foreign birth, and only 7,912 being natives. Seven thousand is a large number for a State like Massachusetts. Twenty-three thousand illiterates were in Boston!

The census of 1880 tells us, again, that there are 6,239,958 persons unable to write, out of a total population of 36,761,607 persons of ten years of age and upward. Of these, 28,424 are in Connecticut!

The number in our common schools who are studying reading, writing, and arithmetic, chiefly, with a little geography and much less grammar, is so large that the balance who are studying the higher branches is pitiably small in comparison. In the great cities the number engaged in high-school and college studies is only one in ten in the most advanced of cities, and only one in fifty in the average of cities. And yet our dreamer of caste and inequality mutters in his sleep: "The cruel suspicion is forced upon us that our present educational system largely unfits young people to deal with the actual necessities of those who are to earn their own living. It takes

away self-reliance, begets conceit, and draws attention to what is ornamental rather than fundamental." Reading, writing, and arithmetic, it seems, are not practical enough because they are general disciplines, and give directive power to all who possess them. The one in fifty who is studying algebra and Latin is grudged his privileges. A knowledge of hod-carrying is more practical than writing!

When, in 1843, the English Parliament were debating whether the sum of £30,000 should or should not be appropriated "for the encouragement of schools for the common people," and when they had just appropriated £60,000 for the support of the Queen's horses and hounds, Thomas Carlyle, then writing his soul-stirring book on *Chartism*, set down in letters of fire these words on the general humanitarian aspect of the question of government support of education:

"Who would suppose that education were a thing which had to be advocated on the ground of local expediency, or, indeed, on any ground? As if it stood not on the basis of everlasting duty, as a prime necessity of man. It is a thing which should need no advocating, much as it does actually need. To impart the gift of thinking to those who cannot think, and yet who could in that case think; this, one would imagine, was the first function a government had to set about discharging. Were it not a cruel thing to see, in any province of an empire, the inhabitants living all mutilated in their limbs; each strong man with his right arm lamed? How much crueller to find the strong soul with its eyes still sealed, its eyes extinct so that it sees not. Light has come into the world, but to this poor peasant it has come in vain. For six thousand years the sons of Adam, in sleepless effort, have been devising, doing, discovering; in mysterious infinite, indissoluble communion, warring, a little band of brothers, against the great black empire of necessity and night; they have accomplished such a conquest and conquests, and to this man it is all as if it had not been. The four-and-twenty letters of the alphabet are still Runic enigmas to him. He passes by on the other side, and that great Spiritual kingdom, the toil-won conquest of his own brothers, all that his brothers have conquered, is a thing non-extant for him. An invisible empire; he knows it not, suspects it not. And is it not his, withal; the conquest of his own brothers, the lawfully acquired possession of all men? Baleful enchantment lies over him, from generation to generation; he knows not that such an empire is his, that such an empire is at all. . . . . Heavier wrong is not done under the sun."

One voice, the voice of Christian humanitarianism, says: Teach aspiration for all that is good and noble and divine; teach it to all, even the lowest. Teach all to desire with an unquenchable hunger

more wisdom, more knowledge, more command over nature, more elevation of position, more usefulness, more directive power. The other voice says: Be contented to remain at the bottom, and quench all aspiration. All talk about perpetual growth in knowledge and wisdom is nonsense, and worse, when addressed to the children of common laborers.

The reason that the first voice gives for its creed is that its faith teaches the divine origin and destiny of the soul, and that the goal of civilization is the emancipation of each from all debasing servitude of body and mind, and that it is the Christian duty of all to help their fellow-men to rise. The reason given by the other voice is the necessity which it feels that there shall be a class in society perfectly contented to be menial servants, and fitted for nothing above that office.

The critics of our educational system are never done with telling us that its results are to make the rising generation discontented with its lot. As if this were a defect rather than the greatest glory of an educational system! What place is there in our system for a drone who is utterly devoid of aspiration? To be like dumb, driven cattle,—is this permitted or encouraged in a Christian civilization? Man is immortal, and has an infinite destiny,—this is the burden of Christian teaching. In consequence of this, Christian civilization strives toward the heavens; it subdues nature and makes natural forces toil for it, and procure food, clothing, and shelter for the body. It continually turns out the drudge from his vocation, and says to him: I do not want your mere bodily toil at any price; I have a machine that can do such work better than the like of you can, and at less than what you would call starvation-wages. Up, therefore, and acquire directive intelligence so that you may manage and direct this machine, and other machines; for presently we shall need no more mere hand-labor, but require all to be intelligent and directive."

As made in the image of God, and as destined for His eternal kingdom, is it possible to look upon any education that schools may give us as too high for the position to which a human being is called to occupy in life? In view of the necessity for educated directive power in an age of productive industry, when the superintendence of machines is the chief industrial business, is a general education that gives one insight into nature and insight into the human mind too much? In a representative Democracy, in which the laws that govern property and personal rights are made by the representatives elected by all the people, including the humblest citizens of the country, is any education too good for the people?

The American people answer, No.

BERNARD MALLON.

BY CHARLES W. HUBNER, ATLANTA, GA.

In Oakland Cemetery, Atlanta, Georgia, on the brow of a gentle slope, and overlooking this beautiful "God's Acre," stands a monument whose inscriptions speak, indeed, "the truth, the whole truth, and nothing but the truth." The inscriptions are as follows: On the west side, "Erected by the Teachers and Pupils of the Public Schools of Atlanta." "Our First Superintendent," and, in large letters, "Mallon." On the north side, "Bernard Mallon, born in Ireland, September 25, 1824. From November, 1848, a citizen of Georgia; died in Texas, October 21, 1879." On the south side, "A trusted Leader among Southern workers in the cause of popular Education for thirty-one years. As Teacher and Superintendent he devoted his life to organizing Public Schools in Georgia." On the east side, "Patient and wise Teacher, he loved God and little children. Gentle and pure man, Honor was his shield; his golden motto: Duty without Fear."

There, reader, is an epitaph thou canst be proud of, if thou hast in thy soul reverence for the divine right of honest manhood. Where is the King's grove that can show the like of it? What is the tinsel and emptiness of the so-called "Great" to the glory of such a life? A farthing candle beside the midday sun! "He loved God and little children." "Patient and wise Teacher." "Pure man." "Duty without fear." Ah! thou canst cover the space of these little words with thy open hand; but who shall measure their meaning, broad as humanity, deep as the soul, high as heaven? Aye, bare thy head reverently, for thou standest in the spiritual presence of "an honest man, the noblest work of God,"—in *this* dust lives the immortal!

As an infant, three years old, Bernard Mallon was brought to this country. His infancy and boyhood were passed in the State of New York. His opportunities for receiving an education, during that period, were not very favorable, but being a bright and studious boy he made the most of them. His public-school education was supplemented by diligent self-culture. Early he displayed the germs of those elements which, in his future career, distinguished him as a teacher and a leader in the cause of education. At sixteen he was sent to Union Village Academy, where he was soon employed as assistant teacher in English branches. At twenty-six (1850) we find

him in Savannah, Georgia, teaching a private school for some years. He then became associated with the late John B. Mallard, Esq., in the Chatham Academy. In 1854, at the solicitation of the Savannah Board of Education, he established a public school, the nucleus of the present fine system of schools in that city. In the following year, in order to make himself still more efficient in the performance of his duties, he resigned his position, and spent a year at Brown University. His ardent thirst for knowledge, keen, incisive intellect, and complete devotion to the profession which he, long ago, had felt to be his life-work, enabled him to overcome almost entirely the deficiencies of his early scholastic training, until he was justly ranked in after-years with educators of the ripest culture in the practical duties of the school-room and the normal class.

He returned to Savannah accompanied by his bride, an excellent and accomplished lady, the choice of his heart, whose wifely devotion gladdened the busy years of his life, and who cherishes his memory with deathless affection. In 1855 he established the Massie School, another link in the Savannah public-school system. Thenceforth, with slight interruptions, he was identified with the public schools of that city, successively filling every position; and, finally, as Superintendent, directing their successful operation. In 1863 a number of prominent citizens of Savannah removed their families to Whitesville, a village thirty miles from the city, on account of the presence of the Federal fleet at the mouth of the river. Mr. Mallon was induced to take charge of Guyton Academy at Whitesville, acting also as Superintendent of the Sunday-school of the Baptist church during his stay, a position he also held during his residence in Savannah. He remained until his death a member of the Whitesville church. In 1864, responding cheerfully to the call of his adopted State, when the whirlwind of war was devastating it from the mountains to the sea, he left his village school, shouldered a musket, and served in the trenches around Atlanta. But his frail body soon succumbed to the hardships of a soldier's life, and he was compelled to return to Whitesville, shortly thereafter settling again in Savannah.

When Atlanta, in 1871, determined to establish public schools, Mr. Mallon was called to undertake the work. He accepted, and in the fall of that year entered upon his duties in this city.

Mr. Mallon's memory is revered in Savannah; loving testimony as to his character as a Christian gentleman, and to the inestimable value of his services as the founder of its public schools, is given in the resolutions adopted at a meeting of the teachers of that city, upon the news of his death.

At Atlanta a grand man and a grand opportunity had met. It was felt at once, by all who critically and with solicitude watched the birth and growth of the new public-school system, that a master-mind was planning the structure, that a potent hand was directing and a vigilant eye observing every part of the complicated plan. The masses, for whose especial benefit the system was designed, felt all this instinctively. Many were the difficulties to be encountered, great the obstacles that obstructed the way to success. He evaded the one skillfully, or overcame the other manfully, He secured at once the confidence and hearty support of his co-laborers in the important work, and no man ever won more completely the love and admiration of a people than did the founder of the greatest public institution of the capital of Georgia.

Mr. Mallon appeared to be ubiquitous. Everything and everybody was vitalized by his spirit. His enthusiasm was infectious. You could not be in his presence ten minutes without feeling that magnetic personal influence which is the gift of the few who are predestined leaders of men and moulders of public opinion. His was the quietness, the depth, the breadth of the mighty river at its mouth; not the prattle and shallowness and narrowness of the fountain-rill at its source. He knew men and women intuitively, their capacities and limitations, their suitableness for certain work; and, by the help of this absolutely essential element of an organizer and leader, he surrounded himself with a corps of teachers who did credit to his sagacity, and materially assisted him in securing the illustrious success with which his life-work was crowned. Veteran and recruit were plastic material in his shaping hand. He inspired them all with the genius of their noble profession; he made them feel the dignity and importance of their position. With him theory and practice went hand in hand. He made teachers to be in love with their work; for, without love,— aye, passionate love,— no genuine success in any sort of work can be achieved. He refined the crude; he encouraged the diffident; with golden words of praise he rewarded the meritorious; the erring he reproved gently; the obstinate he removed with equal tenderness and firmness when his judgment and the good of the cause demanded the ultimate exercise of authority. What else but success can be the outcome of wise men's administration of private or public affairs? This was preëminently the result of Superintendent Mallon's administration of the public schools of the city. Year after year this prosperity increased; more fruitful of good did they become; more efficient the teachers, better the methods, broader the scope, firmer the foundations, smoother the workings

of the complicated machinery, more popular than ever with the people, the system, and the patient, refined, womanly, modest, tireless, feeble-bodied but heroic-souled man, to whose genius and rare practical sense the wonderful success of the schools was due, as the instrument and medium of the wise public spirit which had established and still maintains them.

Splendid offers to other fields, at double the salary he was receiving, urged by such men as the late lamented Dr. Sears, were respectfully declined by Mr. Mallon. For eight years he continued to toil and triumph in his work of love among a people who loved him as few men have ever been loved anywhere. The children venerated him as a father; his teachers were to him as a body-guard of honor; and the system of schools elicited the unqualified admiration of distinguished educators at home and abroad. It seemed that he had, indeed, reached the goal of his dearest hopes, the height of his grandest ambition. But a shadow fell upon his way. Unfortunate complications, growing out of official disagreements, hampered him; his sensitive nature received wounds which bled in secret, but of which few, even of his most intimate friends, knew of *through him.* He felt the "slings and arrows of outrageous fortune," but bore them as a man should. "Every victor's crown is lined with thorns," but royally he wore his all the same, and more than royally did he abdicate the throne which he had erected in the hearts of our people, and which is still his, though the kingly man who once occupied it has exchanged the earthly insignia of sovereignty for the crown and sceptre of immortality. Feeling that under these untoward circumstances his usefulness in Atlanta would be seriously impaired, and having some time before received a pressing invitation from the State authorities of Texas to take charge of the Sam Houston Normal School, he sorrowfully accepted the munificent offer, and resigned his charge in Atlanta. Said he to a friend, with tears in his eyes: "I had hoped to be able to stay here and finish my work and my life in Atlanta, but I cannot remain with self-respect any longer. And yet I carry with me hope that, after awhile, I may be able to come back and live and die with the people I love so well."

Accompanied by his devoted wife he went to Huntsville, Texas, to organize the State Normal College there. Heroically and successfully he worked for two months. But the hand of inexorable Death was upon him. He battled bravely against the fever that was devouring his life; the end came, and the peace of God fell upon him October 21, 1879. His death was calm. It was the serene closing of a grandly useful life. A smile, radiant with the glory past and

the greater glory yet to come, passed over his pallid face; his breaking eye turned with a last, fond look toward the wife of his bosom; there was a tender touch of the hand, a whisper, indicating that his thoughts had turned to the schools of Atlanta, and the children he loved so well, and lo! the pure spirit of Bernard Mallon had passed from earth to heaven.

The Governor, the State Board of Education, and the students of the Normal College publicly expressed their appreciation of President Mallon's eminent worth, and testified to the loss which Texas had sustained by the sudden removal of one whose labors in the cause of education promised to be of so much benefit to the State.

The grief of the people of Atlanta over the untimely death of Mr. Mallon was profound and universal. The people mourned the loss of a public benefactor; the children grieved as for the death of a father. The resolutions passed by the teachers of Atlanta, commemorating his virtues, and extolling the rare elements which made him the model Superintendent of the South, are nobly expressed and worthy of the man and the occasion. Distinguished educators, and the leading educational journals of the country, bore testimony to his excellence as a teacher, and to the value of his life-work. Professor W. Le Conte Stevens, of New York, gives voice to this feeling in the following: "Mr. Mallon was one of the foremost educators and noblest men that I have ever included among my friends; one whose example, whose sympathy, whose words of appreciative encouragement and unobtrusive advice, have served as an inspiration. There is none to take his place as a friend, as an educator, as a whole-souled, earnest, liberal, honest man." Two brief incidents will touchingly illustrate how Mr. Mallon was loved by the children; a correspondent writes: "When the news of his death first came some little children in one of the grammar schools went unprompted to their teacher, with a little handful of dimes and half-dimes, and asked her to send them to Mrs. Mallon, to help build a monument to him. The colored children, too, went crying to his grave. In one of their schools, when their teacher announced his death, there was a long pause of deep feeling, when a very black boy arose in a far-off corner and said: 'Teacher, was not Mr. Mallon, next to Mr. Lincoln, the greatest man that ever lived?'"

Beautiful tributes were also tendered by the Board of Directors of the Ladies' Benevolent Home, of which Mr. Mallon was for years an active member, and by the Directors of the Young Men's Library Association, of which flourishing institution he was successively a director and the president.

His funeral was the grandest ever seen in this city. Over ten thousand people, embracing all classes, followed the remains to the grave. The public exercises took place in the City Hall Park. Three thousand children were massed around the platform whereon the coffin lay. Many distinguished men were present, and the State and city governments were represented. Rev. Dr. Tucker, ex-chancellor of the University of Georgia, conducted the divine services. The speakers were Governor Colquitt, Rev. Dr. Haygood, president of Emory College, and Mayor Calhoun. The addresses of Governor Colquitt and Dr. Haygood, for pure and exalted eloquence, have been rarely excelled. "Bernard Mallon," said Governor Colquitt, "walked along the furrows of life sowing seeds in the hearts of the youth of his country. He has gone, but the harvest is yet to come in the lives of noble men and lovely women. His labors are over! He needs no trumpet to sound his fame, for his memory lingers about every hearthstone in this city with the sweetness and fragrance of a hidden bank of flowers. He lives in the hearts of these youths, these boys and maidens, and in long after-years they will look back with tears and gratitude to the teachings and example of Bernard Mallon, who lies speechless here to-day. He has gone to his reward. From teaching here he has gone to learn the lessons of immortality over yonder. God grant that you all, young and old, shall so treasure the precepts of his life and imitate the virtues of his walk that you, with him, may have joy immortal in the land to which we are assured he has gone."

"There is this about men like Bernard Mallon," said Dr. Haygood, "we never know how we love them until we lose them. As England's poet-laureate said of the Prince Consort, one of the noblest and gentlest of gentlemen, we may say of him:

> 'We have lost him; he is gone;
> We know him now; all narrow jealousies
> Are silent; and we see him as he moved.
> How modest, kindly, all-accomplished wise!
> With what sublime repression of himself,
> And in what limits, and how tenderly!
> Not swaying to this faction or to that;
> Not making his high place the lawless perch
> Of winged ambitions, nor a vantage-ground
> For pleasure; but, through all this trust of years,
> Wearing the white flower of a blameless life.'

"When Cæsar had his triumphs captive princes followed at his chariot-wheels, but I would rather have to follow my bier to its last

resting-place these thousands of weeping children than all the princes and banners of victory that followed Cæsar in his marches."

The procession was nearly a mile in length. A special lot was donated for his burial by the City Council, and the courts adjourned in respect to his memory. A touching feature of the obsequies was the genuine sorrow manifested by the colored people, in whose behalf, and for whose educational welfare, Mr. Mallon always labored with great zeal and success.

The beautiful monument which now marks his grave was made in Italy, and paid for by contributions from all the children of the public schools of Atlanta and the teachers. Shortly after its arrival it was dedicated, in the presence of a large assembly, with appropriate ceremonies, and brief addresses by Professor Bonnell, principal of one of the grammar schools, and Judge Mallon, of Cincinnati, a brother of Mr. Mallon. No memorial to the dead in Oakland Cemetery is visited more frequently by citizens and strangers than this. To the children of Atlanta it is a Mecca, to which they love to journey, to read the inscriptions with tearful eyes, and to keep the sod above the beloved dust bright and fresh with evergreens and fragrant flowers.

The writer will close this necessarily brief and altogether inadequate sketch of the grand life and blessed labors of Bernard Mellon, with whose friendship he was honored, and whose memory is to him a sacred legacy, with the memorable words spoken by Mr. Mallon in a lecture delivered at the Emory Normal School: "In education the main object is the development of character, and to accomplish this we must ourselves be pure, and good, and true."

MOTHERS AS EDUCATORS.

BY MRS. D. H. R. GOODALE, MASSACHUSETTS.

I. — The Mother's Equipment.

The great work of education, in a broad sense, must, in the nature of things, come primarily to mothers. The mother looks at it from the unprofessional side; she takes it up through her emotional life, and it is inter-penetrated for her by the deep solicitude which she feels for the dearest of those cares and interests which make up her life. With this, as with every subject, there is something to be gained by looking at the matter from various points of view. It is impossible quite to reverse the positions of teacher and taught; the child is unable to express in words the bearings of the question upon him, and we outgrow ourselves so fast that we cannot return to his standpoint; at thirty it is impossible to see life in the perspectives of thirteen. The mother takes up, in her estimates, the child's point of view through her sympathy and fuses it with her own. To her knowledge, science, may be precious, but the human element lies much nearer. It is, indeed, an excellent thing to gain information, but it is not the only, or even the most important, object of education. It is not half so fine an achievement to make a scholar as to make a true man or woman.

As the teacher derives authority from the parent, the parent is the natural and the highest supervisor of schools. The school, the university, is but a corollary of the home. Each generation owes to the next the gains of its own experience and all the assimilations of the past. These obligations lie especially upon parents, and the faithful teacher, of whatever degree, is a guardian of this sacred trust.

The mother's anxious care is for the healthy moral, intellectual, and physical *tone* of her boy or girl. She justly feels that a shade of variation here is of more importance than a large margin of mere acquirement. The intimate knowledge which is her privilege cannot be expected of the teacher. It is the mother, therefore, who must so guide the child's course as to maintain those conditions upon which a perfect development will depend. She, in the mysterious round of life, stands nearest to her child, and should know his needs better than any other; she, more than any other, must be able to judge of the fitness of all that he receives to nourish his true growth. She

not only gives him life, in a human sense; she must lead him out,—give him to himself and to the world in the full stature of his germ-created being. What human trust is graver or more important than this of mothers as educators?

It would be idle, in the light of to-day, to question woman's share in the serious duties of life. The old theory of her weakness and dependence, which made her at the best something graceful and charming, like a flower in the window,—at the worst a very millstone round the neck of father, brother, husband,—is now seldom asserted. (Doubtless nature always made her unlike and better than an unnatural theory, but to have to live well in spite of our theories is to carry unnecessary weight.) The innocence of unconsciousness is beautiful and touching, yet it is inevitably narrow and self-centered. The true purity is the helpful purity of one who has knowledge of evil, and has also moral strength to reject it. One must have some knowledge of human nature in order to be largely useful to others; it is a gift to be desired of the gods, though with awe. The wish, the attempt, to hold wives and mothers aloof from the actual necessities, the hard facts of existence, is mere sentiment and folly. Worse, it is wicked, for it is keeping her from her true place and her true work in the world. However generous the love may be which would make her too pure, too tender, to mix with real life, it is mistaken. And the attempt is hopeless. Woman cannot avoid these burdens if she would. God brings his work and his word to her soul, however sheltered in happy homes and hedged in by love. The most difficult problems stare her in the face when baby-fingers cling to hers, and fathomless baby-eyes are lifted to her own. The weak and the helpless everywhere appeal to her. The aged, the neglected, the fallen, the hopeless look unto her. In this thronged, strenuous age, amid the din of hard-pressed industry and struggling competition, the work that men leave undone cries aloud unto women. More and more in the humanitarian, social, and educational movements of the age, questions are offered and work demanded which tax all her powers of mind and heart to meet. What preparation does woman bring to this life-work?

Few thoughtful persons will deny that she must share equally the real duties of life; that the only measure of her work is found in the depth of her earnestness and capacity, the breadth of her sympathies. But it is especially in relation to her children that we wish now to consider her. As a mother, as an educator, do not the inexorable needs of her position give her the fullest right to all that training can do to fit a human being for the responsible exercise of energies and powers?

Too often the young mother has scarcely thought of her duties in a serious or intelligent manner, when, in the evolution of her life, she finds herself charged with these solemn responsibilities, these immeasurable possibilities. She is herself fresh from the school-room, or from the absorbing lightness of "society;" assume that she has true maternal instincts, has she the requisite knowledge? Does not common sense tell us that the probability of these functions and offices of maternity, which is the very basis of society, gives woman an unmistakable claim to the higher education? For how shall she form other minds, her own unformed? How shall she impress right views of life, of its true honor, its worthy aims, upon her children while her own views are in the worst sense childish, narrow, inconsequent, unreal?

What she is must determine the character of her work. However much we may wish, we can only give of that which we have. It is true of a sex, of a class, of a race, that elevation must be growth. It must come from within, from the swelling of the germ, — it must be developed, not added, learned and not taught. But all opportunities should be open to her, that she may assimilate that which she requires,—that which is meant for her. It is not much, perhaps, to a woman whose life is to be filled with the small details of homely duties, to have accumulated a large store of acquired information. All knowledge is intrinsically precious, but this, in itself, is not what she specially needs as preparation for her life-work. But what is a liberal education? Is it not, in its fruits, a comprehensive grasp upon life? It gives us a clue, if no more; it puts in our hands the threads which lead to the best resources of the race. By it we gain access to whatever mankind has learned, has done, has gained. Whatever highest and most satisfying pleasures, whatever deepest and truest consolations, whatever hold upon the real, the imperishable, man has attained, we may thus draw to ourselves, to arm and and sustain us through the battle of life. For it is a tremendous battle for woman as well as for man.

All that education can give, both by way of suggestion and discipline, the mother needs to make her capable of her own best. The wise old maxim, *Know thyself*, seems too like irony applied to her, so little is she aware of her own possibilities. How many bright and charming young women we see, full of capacity, but sadly untrained; whose fine natural gifts remain inert chiefly because their possessors do not themselves understand or appreciate them. Too often in domestic life they become absorbed in its lower cares, and by their example and influence give point to the cruel sarcasm that makes of a devoted wife and mother "a mere drudge." The mother in the

home is the central unit of the life there. It is not safe for her to underrate her true importance. Her tact, her tenderness, all the winning attributes which help to make life sweeter and nobler, all her natural graces are important factors in her influence here; but are they enough to strengthen her hands for the work she has to do? No; mature thought, liberal culture, wide knowledge, are not too much for her. To influence her children, a mother has need of the fullest wisdom. We can do little for them save as we have ourselves learned the great lessons of life; we must translate them in daily living for the young immortals who imitate long before they comprehend. It is easy for an unselfish woman to ignore her own gifts, to deny her own tastes, and to care less for making the most of herself than for the comfort, even for the very small comforts, of those dear to her. But is it right or wise? The mother who does not give her children high views of life will give them low views of life. If they see her hurried, worried, absorbed in the multitudinous cares of the household, thinking and caring for little else, these petty and material things will come to represent for them the all of life. When trifles are inordinately magnified, the higher ends of existence are lost sight of. What we owe to ourselves we owe to God. The mother who does not do her best for herself cannot do her best for her children. She should insist, if necessary, upon time and means for individual improvement, growth, and a reaction. She should fearlessly take her part in the higher life of the age, and spend upon such objects as are the best pursuits of the best men, the time, thought, and money which are now squandered upon the trifles which make woman small and keep her small. When we have all learned a little more practical wisdom, we shall be braver and more steadfast in our determination to live out our own lives, clearly and openly, based upon the best we know, and firmly ruled by our own convictions of right. In that ideal rule, justice will have as absolute sway in the moral world as does the law of gravitation in the physical.

It is in clear conceptions of her own that woman is weak. Her judgment leans too much upon others, trusts too much to precedent and authority, real or assumed. It is this which makes fashion so great a tyrant, and folly so tenacious of life; which sets conventional propriety higher than virtue, and awkwardness lower than vice. She must learn that no one can think for her. It is for her own peculiar work that she needs the highest development possible to her. Even mother-love, without sound judgment, which is reason in its highest exercise, is not respected. The present questioning and sifting of religious thought shows that even in the love and aspiration with which we turn toward the divine, we demand the support

of reason. Neither heart nor mind can be put to its best use without the other; it is vain to attempt to divorce them. The most highly educated mother,—she who is most completely developed, in fullest possession of her own mature powers, will approach her work with as much awe as the gentlest young creature whose fond heart scarce knows any feeling save the all-possessing craving for tenderness and affection. It is indeed the noblest and most cultured who take up these tasks in the deepest humility. To a woman like Margaret Fuller, who stands as a type of high intellectuality, no voice of nature or of art spoke with such power, either to rouse to heroic action, or to soothe with sweetest solace, as the cry of her little child. The careless, the too bold, are those ignorant creatures who, knowing nothing above the lowest plane of physical wants, intrenched in a hopeless conceit, can never be other than blind leaders of the blind. Even for these, perhaps, their own limitations are their justification. Doubtless the clear-sighted, the intelligent, are those who will be held to the strictest accountability. These must be true, not only for themselves, but for all other women.

If God made man and woman unlike, for different work,—and this we believe,—then no man can teach woman what she most needs to know. In the fields of life there is a great realm of common riches, common pursuits, which may be shared or divided in a thousand varying proportions to mutual advantage and delight; but for her most specific and individual work she can take her orders from that power alone which rules all. She must see clearer, determine more firmly, act more enthusiastically and devotedly on her own true lines, than man can do or can suggest. She must make her own standards, her own methods. We must learn to depend, under God, upon ourselves.

Woman is by nature teachable, quick to follow; it is not so easy for her to be strong, fit to lead. Yet this is what it means to be a true mother.

Then, for the sake of childhood; for the sake of man's best interests and noblest objects; for his own sake, too, let every opportunity of culture, of vigorous training and advancement, be as free to girls as to boys. Not that woman may learn to be pushing, in a world of vulgar jostling and struggle, but that she may be better fitted for her purest, most unselfish, most helpful and sacred work. There is no danger of making her less womanly. Nothing can take from her her feminine character. It is her nature. The grafted apple-tree does not forget to blossom in May; the orchards that will ripen precious fruit are not less fair or less fragrant than the neglected seedling by the pasture wall.

THE DEVELOPMENT OF THE INDIVIDUAL.

BY ISAAC DENNETT,
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The proposition which I shall discuss is, that *universal individual development, which is only another term for universal individual freedom, is inseparable from and coincident with universal individual education; and that the education of the masses must be accomplished, if at all, by the State providing in a civil, rather than in an ecclesiastical capacity, a free system of universal individual education, extending from the primary school to the college.*

The term "free" is only incidental, since any system of education, to be universal, must practically be free to the individual. The advocates of universal education, at the State's expense, as the chief factor in promoting universal individual development, challenge the criticism not only of India, but of America as well. But a clear apprehension of terms will enable us to turn from the criticism of words to the criticism of ideas In the course of this discussion I shall find it convenient to make use of the terms "elementary," "secondary," and "superior," as applied respectively to primary and grammar schools, high schools and academies, colleges and universities. I shall also use the terms "State," and "individual," in such connection as to raise the question, "Does the writer intend to prefer individual liberty to the permanence of the State?" The answer depends upon the meaning we give to the term "State," and whether that meaning is of universal application.

For illustration,—suppose we say that the State is the whole people united under one form of government, whose chief aim is to perpetuate its institutions; and suppose we apply this definition to India, Germany, France, England, and America; now we do not prefer individual development to the permanence of the State; for the definition recognizes that States, like the Sun, have a right to live, even though in the process millions of individual atoms perish.

But suppose we say that the State is the whole body of people united under one form of government whose chief aim is, in the fullest degree, to develop and perpetuate individual liberty, and suppose that we apply this definition to India. Now we do place individual development above the welfare of the State, and when better

conditions can be secured, India, as a State, ought to perish because it hampers individual progress, and the individual has a right to live under conditions favorable to his development. Again, suppose we apply this same definition to Germany, England, and France; our reply is that, just so far as these nations recognize and promote universal individual development they have a right to exist, and just so far as they have denied this principle, they and individual development are at variance, and the latter is, of right, paramount; and if as we believe, the United States is the champion of individual liberty, not license, then there is no variance; the State and the individual are one,—one not because the State reduces the individual to a servile position in order to sustain musty institutions, as in India; not because she assigns him his place by the laws of inheritance as in Russia; not because she monopolizes his service from boyhood, as did Sparta; but one because she has made the individual intellectu, ally and morally free, and because he is free, patriotism inspires him to protect his country with the resources she has given him.

> "The country that has made me free,
> Her freedom 's dearest unto me."

If permanence, founded upon *custom*, rather than upon *individual liberty*, is the chief factor to be considered in a State, then China "bears the palm alone."

When the primitive world slowly and only partially cast off the shackles forged by Egyptian and Chaldean jugglery and divination, it raised its eyes to catch the first faint glimmerings of an imperfect light, whose rays emanated from a torch held in the hand of an ignorant, designing, and inefficient priesthood; but that same torch, with a more perfect light, and held in other and better hands, has guided us on our way, and has enabled us to become the exponents and promoters of universal education. But, while we congratulate ourselves upon the present, we may not turn disdainfully to the past, we may not forget that the educational systems of Oriental nations are exerting a powerful influence upon the nations of to-day. Persia was the first to recognize and enforce the great principle that it is the business of the State to educate its citizens, and we of America send our voices across the abyss of ages and the eternity of the past, and say to that ancient Oriental people, "Your principle of State education is sound." But Persia, unlike America, does not recognize the right of individual development; she cramps the powers of the individual in order to make him subserve the interests of the State, while America develops the powers of the indi-

vidual to enable him to subserve the interests of humanity. Therein is contained a principle which I leave for the advocates of a restricted elementary education to ponder. Accursed be that State, ancient or modern, in which neither vice nor virtue, neither incapacity nor ability, can change the position to which the individual is born, which sacrifices individual thought, action, aspiration, freedom, to the perpetuation of its time-ridden and worthless institutions! accursed be any State which gives to the individual instruction just sufficient to prevent his realizing his own ignorance, and thus closing the pathway to his highest development!

Egypt, with her feticism, her priestcraft, her wisdom, is a connecting link between the educational systems of the extreme East and those of Greece and Rome; nay, I may say she is the link that binds the education of the East to the learning of all Christendom. From her treasure-house Egypt poured forth priceless blessings upon Greece, and made it possible for the historian to say, "Pythagoras was the first Greek in whom the spirit of the East was united with that of the West, and in whom the culture of Babylon, Egypt, and western-most Asia combined to develop that of the Greeks in a new and glorious form." Centuries after, Greece in her gratitude, in her benevolence, in her learning, repaid wisdom's debt; she remodeled the system of Egyptian education; she made Alexandria forever famed for its science and literature; and, as the pagan philosophy connects it with the past, so does the Christian philosophy make it one with the present, and the pagan and the Christian meet at Alexandria and unite in revering its science, literature, philosophy, and truth. Individual freedom, when an infant neither strong nor vigorous, was washed ashore on the Ægean coast:

> "An infant crying in the night:
> An infant crying for the light:
> And with no language but a cry."

But that infant cry, first heeded by Greece and then by Rome, placed those countries far in advance of other nations of their time; that cry produced orators, philosophers, and jurists, and caused Cyrus the younger to rely more upon the fidelity of ten thousand free Greeks than upon the time-serving of one hundred thousand Persians; and if, from those times, anything of special value has come down to us, it is bedewed with the infant tears of individual freedom.

From the second to the thirteenth century of the Christian era is the darkest known page in history. It is the embodiment of a human cry for liberty stifled in the utterance by tyrants who knew no mercy.

Let the thoughtful, zealous student that loves his kind read that record, and he blots it with his tears. But ancient Greece and Rome and ideal individual liberty, begotten at the birth of Christ, are the prismatic powers whose rays, cleaving the darkness of that age, illumine the canvas of the centuries beyond; and, as the centuries advance, the colors deepen until, upon the canvas of the nineteenth century, are painted all the tints of the rainbow, and every one of those colors represents individual freedom. But what do the free Greek and Roman,—what does the oppression of twelve centuries,—what does the individual freedom of the last six centuries mean? Do they mean that, as a nation grows older, it must necessarily grow freer and better? If so, how shall we catalogue modern Greece and Rome and Turkey? They mean that just as individual education has been limited or has been universal, individual freedom has coincided with it. This is no mere assertion. An education which fostered ambition, and created in the individual a desire to sway the physical by the mental power, made the ancient Greek a free man. In Europe the first twelve centuries were characterized by an almost universal ignorance; in the thirteenth century the University of Oxford, by harmonizing the Barons, north and south, made it possible for them to wrench from King John the great charter of English liberty. Italian learning of the fourteenth and fifteenth centuries prepared the way for the Reformation and the scholarship of Germany. You have not the patience, and I have not the space, to follow the progress and the universality of education in Europe from the Reformation to the present; the world-wide reputation of Dutch scholarship; the German schools for universal public education, which are unrivaled in the general development of mind, and, the Germans say, in morality; the revival of education in France, such a revival as will never again brook the rule of a Napoleon. Neither can I follow consecutively the development, or rather the restrictions upon the development, of universal education in England; but the history of England, Germany, and France will always be a standing monument of the inability of any ecclesiastical power, even when backed by the machinery of the State, to maintain, successfully and efficiently, a system of universal individual education.

I am aware that the "practical" man may say, "It is well enough to talk of the coincidence of individual freedom with individual education, but when a man possesses his civil, political, and religious rights, he has all the law ought to give him." This is plausible; but no State ever yet *gave* a man rights of any kind. Human rights are from within, divine and universal, and their development by a system

of education makes men free. The United States struck the shackles from the slave, and agreed to protect him in the exercise of his civil, political, and religious rights, but he was as much a slave as before; he could not give a reason for his ballot, he did not know how to make a contract, and, as for his religious rights, he didn't seem to have any use for them. The State does not confer rights, but it is her highest duty not only to protect a citizen in the exercise of his rights, but also to teach him what his rights are and how to use them; and when the State so teaches the individual that he will take the grandest view of his rights, she will no longer draw fine lines between primary and secondary education, but will give him the best education that America or Germany can bestow.

But I pass from the discussion of the principle of universal education, as connected with universal individual development, to the discussion of the *application* of this principle to a free system of universal individual education in America, extending from the primary school to the college.

As the Puritan stood upon the Atlantic shore he looked to the East and to the West, then down at himself, and came to the not surprising nor uncommon conclusion that, before all others, he was of chief interest to the Creator. He believed in individual liberty for himself, but a century passed before he discovered that, if he would maintain his own liberty, he must claim and enforce the same right for others. His mind was hampered by the limitations which tyrannical institutions had placed upon it. The Puritan was in advance of his age, but in his conception of liberty, as compared with the representative man of the nineteenth century, he was inferior. We need not wonder, then, that the so-called free grammar schools of Boston were in no sense the public schools of to-day; and, as individual liberty pushed its way slowly to the front and demanded some system of universal education, we need not wonder that that system was made elementary. Secondary and superior education were fostered by the States, but not as an integral part of the free-school system. Persia educated to enslave; puritan New England to make free. In the nineteenth century Germany and America educate to perpetuate freedom, and the freedom of the masses is not assured until poverty can stand by the side of wealth and aristocracy, not only in the primary school, but in the college as well. But New England now realizes the fallacy of those limitations which the puritan spirit, tinged with European ideas, placed upon her educational system, and, in breaking through those limitations, she has encountered all the opposition with which the traditions of centuries can

oppress individual liberty. In the last twenty five years New England has made an heroic attempt to furnish the masses a free system of secondary education, but, with one or two exceptions, the free high school has not received the cordial support of the New England States; the obstructionists of free secondary and superior education are respectable, and have the traditions of the ages in their favor. THE JOURNAL OF EDUCATION for November 17, 1881, contains the following:

"In several of the largest cities and many of the smaller cities in our country the people are waking up to the unpleasant conviction that their public schools are not paying for the large amount of money and expectation invested in them. The causes for this disappointment are various. In several of our great eastern cities the public school has grown up without the sympathy of the leading class, and in face of the pitiless opposition of more than one great religious sect. Hence the inevitable collision between the respectable obstructionists and the growing demand of the masses of the people."

Why has the free public school system grown up "without the sympathy of the leading class"? The answer is, that the eastern free school system, as a whole, has never challenged the respect of the "leading class" by a free system of secondary and superior education; even elementary schools are inefficient when not supplemented by high schools and colleges.

But the public school of New England has encountered opposition from a source from which it was its right to expect very different treatment. I refer to those endowed schools which have been the pride of the New England States, and which were, for a long time, the inspiration of the free school; but, as they have gained prestige, they have withdrawn their sympathy from the public schools of the States which nourished them, and have assumed a patronizing attitude. Does this seem to be mere assertion? Harvard University will serve for illustration. In the report of the Univeriity, embodied in U. S. Commissioners' Report for 1879, is the following: "Of late years the endowed school and academies have been slowly gaining upon the public schools in the number of candidates presented and in the quality of the training given to their pupils."

In EDUCATION for November, 1881, a commentator upon the above adds: "The fact that the list of private schools and academies represented by the young men who entered Harvard from 1871 to 1879, inclusive, comprises the very best in the country, gives peculiar significance to this implied condemnation of free-school training. It is

time to cease theorizing about secondary instruction in our country; the record before us, incomplete, unsystematic as it is, affords conclusive evidence that those who would abolish or cripple public high schools would place us below the intellectual plane to which all other nations are aspiring." Again, in 1873, President Eliot of Harvard, and Dr. McCosh of Princeton, opposed the endowment, by government, of schools for superior instruction; and held that the government should confine itself to promoting elementary education; in the same year Prof. Atkinson replied in language which still rings in our ears: "What," said he, "is the government domain but the property of the people, and to what higher use can the people put it than to promote the higher as well as the lower education of the people? We have in this country no aristocracy of education,—not one education, as in the old country, for the 'masses' and another and higher one for the privileged minority. The republican principle is, the best education for all,—the best and highest education for the 'masses.' That is the only principle on which republican institutions can be founded." Harvard, who in her earlier and in her riper years was directly aided by the State,—Harvard, whose duty it was to foster the education of the whole people, now that she no longer needs the State's fostering care, has, like other great corporations, cut loose from the power that made her, and turning to Massachusetts declares that government has no right to endow institutions for superior instruction, and condescendingly says: "By the grace and tolerance of Harvard, and by reason of our past relation, we permit your poorly-prepared and ill-conditioned students of the free schools to enter the University." Had Massachusetts kept her grip upon Harvard, as a State institution, she would not now encounter this humiliation, and her free secondary instruction, instead of being "incomplete" and "unsystematic," would have been a firm and sympathetic link between her elementary school and the university. It is certain that the secondary and superior instruction of Michigan cannot *patronize* the State; shall ever the bitter cup be placed to the lips of other States?

I now invite attention to a growing evil which cannot exist in the same atmosphere with free secondary and superior instruction. I refer to the differentiation of New England society. Why go to Europe for examples of class rule when we have them nearer home? Why wait until history shall crystallize truth before we realize our danger? Fifty years ago the words "day-laborer," "working-men," "lower classes," were almost unknown to American literature; to-day these words are not only a recognized part of our language, but are

pronounced with an *accent*. These words, in the mouths of corporations and the would-be "higher class," are synonyms of inferiority. It is a sad truth that the Eastern States contain a large and growing class which believes in an inferior elementary education for the many, and in a superior education for the few; and this same class is looking eagerly for the time when, as it fondly imagines, this country will be a great flower-pot with itself the central flower, and the whole social scale beneath, dirt in which itself may grow and put forth blossoms. This class had its origin in the New England States; its birth and growth were made possible by the absence of free superior, and until recently free secondary, education; and that same class is held in check only because New England has in the field an army of trained public school teachers who have not only broadened and deepened elementary instruction, but who have also battered down much opposition to free high schools. Does it occur to the reader that my imagination may deceive me? I refer him to the records. THE JOURNAL OF EDUCATION of Oct. 6, 1881, in an article entitled "The Peril of New England," says: "Like the Englishman, the Yankee has always in him a lurking devil of despotism and pride, and he finds it difficult to deal justly in all ways with people dependent upon or beneath him. While we do believe that, on the whole, the civilization of New England deserves much that is said of it in comparison to other portions of this country, it would be folly to deny the fearful perils that threaten her near future unless met and disposed of with the most vigorous wisdom and Christian forbearance." In another portion of the article, in speaking of the isolation of children for the purpose of exclusive training, as recommended by Catholic bishops, THE JOURNAL says: "In this they (meaning the bishops) coincide with the views of a class of the more exclusive native sort, who hold that the laboring multitude should be content with a very moderate education, largely industrial, that shall fit them for a well defined inferior position in life, and not disturb them with discontent and envy of their superiors." Again, "Of one thing professor and priest may be alike assured,— that every Yankee boy and girl, of native descent, intends to get the best of everything somewhere. If the time comes when a superior, exclusive class rules in New England, the whole body of native youth will turn their backs upon Yankee-land and push for regions where manhood and womanhood still claim their rights." To what regions will they turn, if not to the West? and to what portions of the West, unless to those States which, by the perfection of the free-school system, shall guarantee protection from caste rule? In the language of W. A. Mowry, "It

is necessary to abolish caste. . . . . Let the door of the school-house, the 'brain factory,' be open to all the children, and the child once started on the career of learning, let him not find those doors ever closed against him till, if he so elects, he shall have completed not merely the course of study in the common English branches, but in the English high school, the scientific school, or the college. Thus will be brought about the time when will be realized on earth the two great principles alike of the highest human philosophy and of our holy religion,—the *common fatherhood of God* and the *equal brotherhood of man.*"

I now turn from the discussion of class-rule to the consideration of another question which is agitating the East, and which is not foreign to the West. I refer to the *manner* of imparting moral instruction in our public schools. If you have read the Superintendent's report of Denver's public schools for 1881, I fear my views will prove of little interest. But we all agree that the methods of imparting moral instruction ought to be discussed until our schools reach a higher degree of moral excellence; and yet it will temper criticism if we remember that no scheme of education has been devised that has so improved the morals of the masses, rich and poor, as the public schools. It is my conviction that the schools are not so much in danger from increasing immorality, as from honest but injudicious people who persist in administering nostrums to cure the evil. There are two methods of imparting moral instruction, the direct and the indirect. The ritualists, both Catholic and Protestant, encouraged by a growing class among other denominations, advocate the direct method of moral instruction; and yet it does not appear that, if opportunity were given, they could agree upon a moral code for the public schools. To prod your opponent with a sharp stick through a crevice in a fence is much safer than though he were on the same side with yourself; so it is safer for us to prod the Roman Catholic than though he were upon the Protestant side of the fence. But I protest against this unfairness. Opposition to the free-school system by the Roman Catholic is no worse than opposition by the Protestant, and so far as Protestant and Catholic travel the same road they should be classed together. Criticism upon the public schools by more than one powerful denomination challenges criticism upon the same plane, and a chapter from their own experience may make them more charitable, and possibly more modest. In Italy, Germany, and Protestant England, moral and religious precepts have thundered from the teacher's desk with the same regularity as ocean's tide beats upon the shore; but in every one of those countries the State has been

obliged to interfere and wrest the school system from the power of the church. This historical fact is no reflection upon the church or Christianity, but it does reflect upon the *method*,—it does go to show that "the formal inculcation of moral truth" is not the best way to weave character out of that complex being, a child. The hitting of a boy with a moral cudgel affects him in the same way as striking him with any other club,—in either case it confuses his ideas. It is curious to notice some of the phases through which portions of the church have passed in connection with public education.

In France, in 1883, the Roman church played the strange role of the zealous advocate of freedom of instruction. In England the Episcopalian has monopolized public instruction, and the Methodist is fighting it because it is too sectarian; in America the Catholic has not been noted for his zeal in advocating free instruction, and the Episcopalian has not been so indiscreet as to commit himself on the side of the public school, and here we find the Methodist a warm advocate of public instruction. But in all these cases we shall find them, as is their right, moving in the direction of what they deem to be their own interests. In view of these facts, when the morals of the public schools are criticized by the organ of any great denomination, the friends of public instruction have a right to ask what *motive* underlies the criticism, and, if that motive is found to be more selfish than moral, the facts of history and the voices of the ages should be marshalled against it. In some of the Eastern States the Roman church demands a division of the school fund. Are you sure that the Roman church has no Protestant sympathizers? are you sure that if she should have hopes of obtaining her demand that other powerful denominations would not favor the scheme, as they have already done in the Netherlands?

I make the exact quotation from the history of education in the Netherlands: "The Catholics, however, left their liberal allies, and, at present, are united with the orthodox Protestants and Conservatives in an attempt to divide the school-fund, a scheme which is opposed by the Liberals only. This question of denominational schools has since formed the chief issue at the general election. In the election of 1875, for members of the second chamber, the Liberals obtained a majority of two over the united opposition." But happily there is a more cheerful view than this. The arena of the public school furnishes a grand battle-ground for those who wish to contend for moral as well as mental growth, and it is the only arena where all classes and denominations can meet in friendly rivalry and inculcate moral principles without the clash of dogma and the scars of war. But how shall these great denominations meet in that

arena? Shall they come to impart direct moral and religious instruction, and possibly to teach special tenets of their own? God grant it not! But let their presence be felt even as the presence of the Great Teacher is felt among themselves,—known, but not seen; present in the spirit, but absent in the flesh. Let them see to it that no teacher, Catholic or Protestant, who is not morally clean, stand at the teacher's desk; that suitable reading from the best authors is placed within the reach of every child; let them guard every avenue to vice, and open wide the doors of virtue; let them take a broad catholic view of the whole public-school question. But, if a system of backbiting and coldness once grows up between the free school and the church, both will suffer much, and, in this age of independent action, it is impossible to foretell which will suffer most.

After two and a half centuries of elementary instruction have passed, after the courts of many of the States and the Congress of the United States have admitted the right of taxation to support secondary and superior instruction, I will not insult your intelligence by discussing this question; but I will strengthen your convictions by a few sentences from the lips of those men who have discussed this question in Europe, and in the eastern portion of the United States. "I will thank any person," says Everett, "to show why it is expedient and beneficial in a community to make public provision for teaching the elements of learning, and not expedient nor beneficial to make similar provision to aid the learner's progress toward the mastery of the most difficult branches of science and the choicest refinements of literature." Says Huxley, "No system of public education is worthy the name of National unless it creates a great educational ladder with one end in the gutter and the other in the University." Francis Adams says, "Elementary education flourishes most when the provision for higher education is most complete. If the elementary schools of Germany are the best in the world it is owing, in a great measure, to the fact that the higher schools are accessible to all classes. In England, not only have the aims of the elementary schools been educationally low and narrow, but an impassible barrier has separated the people's schools from the higher schools of the country. In the United States the common schools have always produced the best results where the means of higher education have been the most plentiful." The words of Washington are, "In proportion as the structure of a government gives force to public opinion it is essential that public opinion should be enlightened."

Why is it that I have dwelt so long upon the shortcomings of New England? Let no one suppose I have been indulging an acrimonious spirit. She is the mirror in which we see reflected the civilization of

two and one-half centuries. It is our privilege to profit by the errors as well as by the excellencies of New England; she warns the West not to repeat the mistake of the Puritan by placing limitations upon its free-school system, and the West has profited by the warning. Not until we turn our steps westward from the Atlantic coast do we realize the ideal free school; only in our western land does the State support free primary, secondary, and superior instruction; only there does she look upon the rich and the poor with impartial eye; only there does she dignify the individual with the thought that he is personally interested in a grand scheme for the development of the human race; only there does the State recognize by her practice that universal individual development, which is only another term for individual freedom, is inseparable from, and coincident with, universal individual education, and that the education of the masses must be accomplished, if at all, by the State providing in a civil, rather than in an ecclesiastical, capacity a free system of universal education extending from the primary school to the college. Is there not enough in the thought of universal emancipation to awaken our enthusiasm? Do we realize that we are writing the educational history of America; and that, as we write, so shall it read a century hence; and as it shall read, so it shall stand as a testimony for or against us? If we cramp the model we can rear no stately structure. ut Bit is our proud privilege so to build that caste rule can never obtain a footing in these States; let us build a free system of education with its foundation at the base of our lowest foot-hills, and let us extend it upward in an unbroken column until it shall match the highest mountain-peaks. Let us reply to all criticisms upon this grand system with patience, with calmness, and with hope; let us not express anger nor surprise when people ask what education is for, not even though grave State senators rise in their places and inquire somewhat roughly, but in the presence of an applauding audience, "In the name of God, what do they study at the State University that is of any sort of value?" Let the experience of the ages, embodied in the words of man, answer.

Hon. O. P. Fitzgerald, in the report of California for 1871, speaking of the real value of the University, says:

"The State, before renewing its endowments; the National Government, before repeating its grant; the men of wealth, before founding new professorships; and the fathers, before sending us their boys, will often ask, 'What for'? Let us have our answer ready. Let us trace the influences which have proceeded from Athens, where Socrates and Plato taught,—teachers whose words still nurture our

statesmen and theologians; from Bologna and Paris, where students dwelt by thousands; from Oxford and Cambridge, where so many of the foremost teachers of Anglican literature, politics, and science were fitted for their career; from the seats of learning in Germany, now surpassing in number of teachers and students the universities of every other State; from the colleges of New England and the Atlantic sea-board; let us study such examples, and say with courage and hope that the University shall be a place where all the experience of past generations, so far as it is of record, and all that is known of the laws of nature, shall be at command for the benefit of this generation and those who come after us; that here shall be heard the voice of the wisest thinkers, and here shall be seen the examples of the most diligent students in every department of science. Let us say that here high-minded youth, while they train their powers as in a gymnasium, may also fit themselves with armor for the battle of life, and may study examples of noble activity. Let us see to it that here are brought together the books of every nation, and those who can read them; collections from the kingdoms of Nature, and those who can interpret them; the instruments of research and analysis, and those who can employ them; and let us be sure that the larger the capital we thus invest, the greater will be the dividend.

"What is the University for? It is to fit young men for high and noble careers, satisfactory to themselves and useful to mankind; it is to bring before the society of to-day the failures and successes of societies in the past; it is to discover and make known how the forces of nature may be subservient to mankind; it is to hand down to the generations which come after us the torch of experience by which we have been enlightened.

"It is wisdom which the University promotes; wisdom for individuals and nations, for this life and the future; a power to distinguish the useless, the false, and the fragile from the good, the true, and the lasting. There was a wise man of olden time who figured its value as well as any of the writers of to day when he said: 'Happy is the man that findeth wisdom, and the man that getteth understanding, for the merchandise of it is better than the merchandise of silver, and the gain thereof than fine gold'; and his estimate of post-graduate instruction deserves our assent. 'Give instruction to a wise man and he will get wiser; teach a just man and he will increase in learning.'"

But overshadowing this reply in the mystery of eternity are three unknown quantities, whose values can be determined only by the Infinite,—fraternity, humanity, liberty.

HOW DOES COLLEGE LIFE AFFECT THE HEALTH OF WOMEN?

BY L. H. MARVEL, A.M.

Even as late as the beginning of the present century the prevailing belief respecting the health and longevity of different classes of people was favorable to the farmers and workingmen, and adverse to those engaged in the professions. The farmer was pictured as hale and hearty, the workingman as muscular and brawny; the student and professional man as pale, weak, nerveless, and oftentimes effeminate. But within comparatively few years statistics have been compiled which show the reverse to be true.

Foremost among the athletes of the country have been found those college students who are interested in boating, the ball-field, and in various other sports and amusements which demand health and strength as well as skill. The record of our late civil war shows that the professional men far surpassed other classes in strength and endurance; and even the cold, close calculations of the actuaries of life insurance companies indicate that professional people exhibit the greatest longevity.

The mass of college graduates are engaged in the professions. It is clear that the result of their college training has been to establish a stronger physique and develop a higher type of manhood than the average. For all these statements the data may be readily obtained to establish the proofs.

But the colleges for women are now passing through an ordeal similar to that which the colleges for men have successfully passed. While conceding that the minds of women may be trained to do equally as good work as men, the prevalent objection to the higher education of women is that the knowledge is obtained at the expense of health and strength. A few cases are often cited and the judgment *ex uno disce omnes* pronounced as though the data were sufficient to warrant an unalterable decision. Believing that a careful study of facts might result in proof that a mistake as glaring as that which had been made respecting the colleges of men still prevails respecting the higher education of women, correspondence with leading colleges and higher schools was commenced.

Without going too closely into details, the following questions were asked from the authorities of each institution to whom letters were addressed:

First: How does the health of young ladies who enter the institution compare with the health of other young ladies of same age and similar social position?

Second: How does the health of those who graduate compare with the health of the same person on entering college?

Third: In those institutions where both sexes are admitted, is there any marked distinction in the effects of college-life upon men and women?

In the belief that replies to these questions from institutions in various parts of the country will be of value in determining the question under consideration, and will indicate more nearly than any other, facts from which can be adduced the real effect of attendance at colleges and advanced schools upon the physical development of students, extracts from the replies of several of the school officials are presented for consideration. In nearly all cases the social life of the young ladies was held responsible for much of the lack of health and vigor which might be noticeble. Those young ladies, either in school or out of school, who devote a large portion of their time to social pleasures are worn out by the excitement of parties and balls, and exhausted on account of late hours and insufficient rest.

Again, some over-ambitious students who attempt to enter advanced courses, or do two years' work in one, may be expected to suffer the penalty of overwork. Besides these classes, those who enter college determined to do the regular work of the curriculum without allowing external cares, pleasures, or duties to engross their time and attention, are to be considered as the typical students. If it shall be found that such students are injured and enfeebled as a result of their college life we may legitimately conclude that its effect is detrimental to the physical development of the average woman. If, on the other hand, it shall be shown that the women in college and those who graduate are stronger, healthier, more robust, and longer lived than women in other walks of life, the theory that the higher education tends to lower the physical standard of womanhood must be abandoned.

Without farther introduction, testimony from various schools and colleges is offered. From the statements of facts presented each may draw for himself conclusions concerning the physical status of college-bred women.

VASSAR COLLEGE, POUGHKEEPSIE, N. Y., NOV. 11, 1882.

DEAR SIR:—I doubt if we have any statistics in reference to the points fo your inquiry. No medical or physical examination of students is required on their entrance. I suppose our students coming here from various schools, at the age of fifteen or sixteen, are about like other girls of the same age in the same schools and in the same domestic and social relations. At graduations, when girls are at least four years older, so as I have observed, they are generally in better health than when they enter. But there are no statistics on which to base a certain conclusion. In this college they are under the surveillance of a resident physician, their hours are regular, their work is regulated by their strength, and they are not overworked. Of course there are cases where the student gives out and leaves. She may be a chronic invalid bringing her ailment, or the germ of it, when she comes. But in any community where there are three hundred girls, many of them still growing, there is more or less invalidism. I think there is less in our little community than with any other three hundred in other places and walks of life. Our resident physician, who has been here but a year, is about to make some records, in connection with her examination of students who are to take gymnastics, which may have some value. But I doubt if any satisfactory inferences could be drawn from the records in our physician's office in regard to the number of patients and their ailments for any given year, or any number of years. If these could be, I do not know when the facts could be obtained for a comparative estimate in regard to girls of the same social position who do not go to college. If you can give me any specific inquiries for which we have facts to answer, I shall be happy to furnish them. Yours very truly,

S. L. CALDWELL.

SMITH COLLEGE, NORTHAMPTON, MASS., NOV. 10, 1882.

DEAR SIR:—President Seelye desires me to say, in answer to your questions of the 6th inst., that the health of our students upon entering college is a little lower than that of the average farm-girl. But as regards the condition of other young women of the same age and of similar social position who are prepared for college, we have no means of judging. The statistics taken for the year ending June, 1881, show that, out of two hundred and fifty students, three left college on account of sickness apparently contracted while here. We have every reason to believe that, owing to sufficient sleep, proper food, and regular exercise, the physical condition of the students materially improves during their residence in college.

Yours truly,

RACHEL C. CLARK, President's Private Secretary.

From the report we learn that in addition to lectures on Physiology and Hygiene there are regular exercises in light gymnastics, in a gymnasium provided for the purpose. These exercises are accompa-

nied by music, and are under the charge of a competent teacher. They are designed to bring the muscles into symmetrical action by agreeable methods, and they aim to secure not only health but also graceful carriage and well-formed bodies.

The number and and arrangement of studies, and the mode of life, are carefully adapted to the demands of an enlightened physiology.

In the construction of the college buildings great care has been taken to avoid numerous staircases, and to secure the best arrangements for light, heat, and ventilation.

SALEM, MASS., NOV. 11, 1882.

DEAR SIR:—It is not easy to generalize safely in regard to the effects of study upon young women. Some of my own pupils, at the close of their course of study in the Normal School, have assured me that their health was better than it was when they entered the school. Others have seemed to become more or less exhausted in strength. In the most of the latter cases the exhaustion has, I feel assured, been caused more by anxiety than by the work done or required. This anxiety is experienced chiefly by young women who strongly desire to do well, but whose scholarship places them near the dividing line between those who may and those who may not graduate. There must, of course, be some standard of scholarship that shall be reached as a pre-requisite for graduation. There will always be more or less doubtful cases in each class. I see no way of preventing anxiety on the part of the doubtful ones. Young women are, as a rule, sensitive, and in some cases the prospect or possibility of a failure undoubtedly has an injurious effect on the health. After much observation, experience, and thought, I have come to the conclusion that, *upon the average*, young women cannot safely perform, for a considerable time, as much mental labor as young men can; and not from inferior mental ability, but from inferior physical strength. I believe in the "higher education of women," but I seriously question the wisdom of requiring them to accomplish the same kind and amount of work in the same time and the same way as is expected of young men. Yours truly,

D. B. HAGAR, Prin.

WELLESLEY COLLEGE, WELLESLEY, MASS., NOV. 9, 1882.

DEAR SIR:—The physical condition of young ladies on entering college, compares favorably with that of other young ladies of the same age and social position. Although the college, in the correspondence with applicants for admission, advises them not to be in haste to enter, to prepare slowly and thoroughly, and to give the two months of summer vacation before college opens to rest and recreation, there is occasionally an instance of a student who comes suffering from the consequences of overwork. As a rule such students gain in health after a few weeks of regular college life. Wellesley has four hundred and seventy students. Of this number, two

hundred and twenty are enjoying their first year in college. Three new students have been sent home on account of physical incapacity. These were not members of the freshman class, entering after a careful preparation, by diligent study, of Greek, Latin, and Mathematics,—they were students who entered to take special studies. Their illness could not be attributed in any one of these cases to overwork.

In reply to the second question,—How does the physical condition of graduates compare with their condition on entering college?—the physician states that there is very often improvement in health during the college course, and the state of health on graduating will compare favorably with the same on entering college. One hundred and seven girls have been graduated from Wellesley. Of this number about one-half are doing acceptable work as teachers, and furnishing convincing proof that study is not an enemy to health. Not one of the graduates is known to the college to be an invalid. The healthy condition of the students may be attributed in some measure to the fact that they feel that they are accomplishing good work, and are interested and happy in their daily tasks.

A. M. McCoy, Sec'y.

[*Extract from the "Wellesley College Calendar."*]

"For many years the charge has been repeated, in public and in private, that health is destroyed by hard study. It is the favorite argument of those who oppose the higher education of women. This charge is not just. The truth is, that hard study, properly directed and regulated, promotes physical health. Every experienced teacher will confirm this statement. But the unjust prejudice against the higher education of women is perpetuated because the consequences of violating the laws of nature, from earliest childhood, are charged upon study, while the real causes are disregarded and allowed to continue their pernicious work. When the thoughtful women of our country are united in observing, protesting against, and reforming the fatal causes which do indeed destroy health, this calumny, that woman's mind and woman's body are too frail to bear the pursuit of knowledge, will perish with other forgotten prejudices."

Mt. Holyoke Seminary, at South Hadley Falls, has been established forty-five years. The present membership is from two hundred and seventy-five to three hundred pupils. The course of study is four years. Pupils who enter the school are generally graduates of high schools, or have received equivalent preliminary training. The report from this institution is that the health of girls who enter the school is as good or better than that of other young ladies of similar age and social standing. But during their connection with this institution the resident physician marks a noticeable increase in weight and strength.

The following statistics, including a period of thirty years, show the comparative longevity of graduates from several institutions, including Mt. Holyoke Seminary:

	Graduated.	*Deceased.*	*Rate per ct.*
Mount Holyoke Seminary,	1,213	136	10.39
Amherst College,	1,199	*135	11.26
Bowdoin,	1,012	*120	11.85
Brown,	972	120	12.34
Dartmouth,	1,639	276	16.83
Harvard,	2,326	*208	11.52
Williams,	1,215	123	10.12
Yale,	2,883	387	13.42

* Exclusive of war mortality.

OBERLIN COLLEGE, OBERLIN, OHIO, NOV. 14, 1882.

DEAR SIR:—I am not prepared to furnish the statistics in regard to the health of female students for which you ask. Some time since a committee of our faculty was appointed to gather these facts, but they have not yet reported. Our impression has been, from a general observation of the facts, that our young women endure the strain of a course of study as well as the young men; *i. e.*, where they have had the same or equal preparation. In the case of young women who come into the advanced literary and philosophical studies of the course, without the full discipline of previous classical study, there are indications of nervous anxiety at times, which is undesirable and unwholesome. Hitherto, our arrangement of courses has brought young women into these advanced classes under this disadvantage. They have held their place in scholarship, but not always in health. My personal opinion is that the apprehension of failure in the class-room takes a stronger hold upon young women than young men. The young women are in general very sensitive about falling behind. When we have the statistics, I can answer more satisfactorily.

Yours very truly,

JAS. H. FAIRCHILD.

[*From "The Coëducation of the Sexes as pursued at Oberlin College."*]

Have young ladies the ability in mental vigor and bodily health to maintain a fair standing in a class with young men? Do they not operate as a check upon the progress of the class, and degrade the standard of scholarship? and do they not break down in health under a pressure which young men can sustain? To this inquiry I answer, where there has been the same preparatory training, we find no difference in ability to maintain themselves in the recitation-room. Nor is there any manifest inability on the part of young women to endure the reqnired labor. A breaking down in health does not appear to be more frequent than with young men. We have not observed a more frequent interruption of study on this account; nor do our

statistics show a greater draft upon the vital forces in the case of those who have completed the full college course. Out of eighty-four young ladies who have graduated since 1841, seven have died,—a proportion of one in twelve. Of three hundred and sixty-eight young men who have graduated since that date, thirty-four are dead, or a little more than one in eleven. Of these thirty four young men, six fell in the war; leaving those out, the proportion of deaths still remains one to thirteen. Taking the whole number of gentlemen graduates, omitting the Theological Department, we find the proportion of deaths one to nine and a-half; of ladies, one to twelve; and this in spite of the lower expectation of life for women, as indicated in life-insurance tables. The field is, of course, too narrow for perfectly conclusive results; but there is no occasion for special apprehension of failure of health to ladies from study."

BOSTON UNIVERSITY.

As regards instances of the physical condition of graduates during their college course, I have known many more to improve than I have to deteriorate; and in reply to your question, whether there is a marked difference noted in the effect of study upon the minds and bodies of female students, I reply, there is no difference.

W. F. WARREN.

PRESIDENT'S ROOMS, CORNELL UNIVERSITY,
ITHACA, N. Y., NOV. 11, '82.

I am directed by President White to say that no statistics regarding the physical condition of young ladies upon entering college, and after graduation, have been kept; that he has a very strong impression that the experience at the Western institutions where ladies are admitted to advanced courses of study, as well as in this institution, is favorable to the higher education of women from the physiological point of view. Pains have always been taken in this institution to impress upon young women the primary importance of maintaining good physical health; and to this end, lectures upon physiology and hygiene are deiivered to them,—and a gymnasium is set apart for their use. Mr. White can only say that the health of graduates of Cornell University seems to compare very favorably with that of other women of similar age. His attention has certainly never been called to any deterioration in health in consequence of advanced study on the part of women; and he has always taken pains to tell young lady students that the maintenance of good physical health is more important to them than any amount of intellectual discipline or culture.

I remain very truly yours,

GEO. L. BURR, Private Sec'y.

STATE NORMAL SCHOOL, BRIDGEWATER, MASS., NOV. 7, 1882.

DEAR SIR: — In answer to your inquiry concerning the effect of study upon the physical health of our young lady students, I submit the follow-

ing reply. Our lady students generally improve in health during their course of study. Their habits of living are more regular with us than at home, which proves beneficial to their health of body as well as mind. I believe the physical conditions of the young ladies entering this school is quite as good as that of other young ladies of the same age and similar social position. I do not perceive any noticeable difference in the effect of study and exercise upon the minds and bodies of female students as compared with male students. Yours truly,

A. G. BOYDEN.

ST. LAWRENCE UNIVERSITY, CANTON, N. J., OCT. 28, 1882.

DEAR SIR: — Our College has been in operation for seventeen years. The proportion of male and female students has been about as two to one, —that is, one-third ladies.

1. Their mental and physical condition when they entered was about the same as other young ladies of the same age and social position, though probably in most cases a little better. Their health had generally been good, and their mental training not very systematic or extensive. On entering college they are put down to hard and systematic work, and kept so all through the four years' course.

2. Their health has generally improved during their college course. There have been exceptions, but these have been few. Systematic study has tended to improve their health. We have had but one death among the lady students while they were connected with the college, and very little sickness. At the close of their college course they have appeared healthy and robust, and have entered upon their work of teaching or other occupations requiring mental exertion, with every prospect of holding out well, also, as to scholarship and in the higher branches,—as Latin, Greek, political economy, the calculus, mental and moral philosophy,—have ranked as high as the gentlemen, and in some cases higher.

3. I cannot say that there is any great difference in the effect of study and exercise upon the male and female students. Neither seem to be injured at all by continuous study. Both are made stronger in body and mind. I may also add that the mental occupations upon which our graduates enter after leaving our college tend to increase the strength and activity of body and mind of the lady students.

J. S. LEE, Professor.

ANN ARBOR, MICHIGAN, OCT. 26, 1882.

1. The comparison is strongly in favor of the ladies who enter the University.

2. The health of the graduates is, as a rule, I think, better even than when they entered. Some cases, however, are exceptions.

3. I do *not* note any marked difference in the effect of study and exercise upon the minds and bodies of female students compared with male students.

CHAS. H. STOWELL, M. D.

ANN ARBOR, MICHIGAN, OCT. 23, 1882.

Replies to questions on the accompanying paper. The replies relate to the University of Michigan.

1. They are rather stronger, both physically and mentally.

2. In most cases it is quite as good at leaving as at entering. A few have injured the health by over-application or disregard of hygiene, but the ratio is not greater among women than among the men.

3. There is absolutely no difference in the effect of study and exercise, either mentally or bodily, in the coëducation of the male and female students.

MARK W. HARRINGTON, A. M., Prof. Astronomy.

UNIVERSITY OF MICHIGAN, ANN ARBOR, OCT. 19, 1882.

Women have been here since 1870, and have done every kind of work successfully and without injury to character or health.

Yours very truly,

JAMES B. ANGELL, President.

MADISON, WISCONSIN, NOV. 10, 1882.

DEAR SIR: — I send a report on coëducation. It is an accepted fact with us, which no one ventures any longer to criticise, so manifold are its advantages. The young women maintain an equal rank in scholarship with ease.

J. BASCOM.

The following selections from Prof. Bascom's report are especially pertinent:

"Contrary to the opinion of the visitors, the young women do their work with less, rather than with greater, labor than the young men, and certainly do not fall below them in any respect as scholars. We also believe this labor to be done by them with perfect safety to health; nay, with advantage to health, if ordinary prudence is exercised. The young women, whose health was primarily the ground of criticism, have improved in strength rather than deteriorated, since they have been with us, though they burdened themselves with extra work which we do not counsel.

"We confess to some surprise that so many of the medical profession bring forward for the first time in connection with coëducation, a function familiar from the dawn of human life, as if it had the force of a fresh discovery in putting down this form of progress, when, in fact, it has no more to do with coëducation than with separate education, can as well be provided for in the one form of instruction as in the other, and bears with tenfold force against the labors of women as operatives, clerks, teachers, housekeepers, in which callings continuous hard work has been allowed to pass utterly unchallenged.

"Though my conviction has been, previous to this report, that the health of the young women, as a whole, was *better* than that of the young men, and

that there were striking instances of graduation with robust strength, I am striving to test this opinion by facts, so far with the following results. All excuses for ill-health are given by me. The exact number of students in our collegiate and dependent courses is 357. Of this number 93 are young women,—a trifle more than one-quarter. During the past eight weeks, the most trying weeks in the year for students, there have been 155 days of absence from ill-health on the part of young men, and 18 on the part of young women. The young women should have lost, according to their numbers, 54 days, or three times as many as they have actually lost. The students were not aware that any such registration was being made. It may be felt that the young men are less conscientious in pleading ill-health than the young women, and this is doubtless true ; but I sharply question a young man, and rarely ask any questions of a young woman. I explain the facts in this way. The young men are not accustomed to confinement, and though sun-browned and apparently robust, they do not endure the violent transition as well as women. Study is more congenial to the habits of young women, and the visiting committee are certainly mistaken in supposing that they have to work harder in accomplishing their tasks. *The reverse is true.* In addition to the above bill of ill-health against the young men, a corresponding large number of them have been compelled, from the same cause, to leave the University altogether.

"A second showing of the registration, which I had not contemplated, but one very interesting, is this ; the absences of the young women are almost exclusively in the lower classes. Of the eighteen, two are in the Sub-Freshman, fourteen in the Freshman, one in the Sophomore, one in the Junior, and none in the Senior. The absences of the young men are evenly distributed, on the other hand, through the entire course. The young women do not, then, seem to deteriorate with us in health, but *quite the opposite.* I do not belong to the number of those who set lightly by health,—I would not sacrifice any measure of it for scholarship ; but it has long seemed to me plain that a young woman who withdraws herself from society and gives herself judiciously to a college course is far *better* circumstanced in reference to health than the great majority of her sex."

The testimony of all these authorities is uniformly to the effect that young lady students who enter college well prepared, and who devote their full time and strength to legitimate college work only, leave college with both bodies and minds improved by their four years' connection with the institution. It is noticeable that those who are familiar with the effect of student-life upon both (the presidents of mixed colleges) express themselves more emphatically upon this point than those who have control of colleges for women only. It is evident that the latter fear to overstate the case, while the former, having comparative statistics to guide their judgment, and

knowing the effect of student-life upon the health of men, speak with greater confidence.

The record of comparative mortality prepared by the faculty at Mt. Holyoke Seminary, and the record of absence on account of sickness at the University of Wisconsin, are illustrations in which carefully prepared statistics are presented. But the mature judgment of college officers from all sections of the country, while not expressed in figures and percentages, seems a still higher criterion upon which to establish a final correct judgment; and this opinion may be concentrated in the following statement:

College life, so far from being a hindrance to the physical development of women, has resulted in a stronger physique and more perfect womanhood, except in cases where the student is overburdened by attempting to do more than the curriculum requires and the faculty approves, or when strength has been exhausted by the demands of society.

On the other hand, objections generally come from parties who have no experimental knowledge upon the subject, and who form their judgment either from a few isolated cases which have come under their personal observation, or who assume that certain difficulties exist and then endeavor to invent a cause for them. All the facts, however, demonstrate that their position is untenable. From the preceding testimony of unimpeachable and most competent authorities, the presidents of women's colleges, it must be conceded that women gain in health and strength during college life.

Even a college education may not eradicate from the system all the evil effects of improper diet, inattention to the laws of health, follies of dress, late hours, and social dissipation. But when all these causes have combined to undermine the constitution and ruin the health of the college student or graduate, the real cause should be assigned and the responsibility placed where it belongs, and not shifted to rest as an incubus upon institutions by no means responsible for the result.

ADDENDA.—In a book recently published, the author diverts attention from the subject of the "higher education" of women to "coëducation," affecting to misunderstand the terms, and assuming that the latter is the more prominent issue, and includes the former. In order to avoid confusion, the subject of this article is "College Education," although it is commonly understood that by "higher education" is meant education in such studies as are pursued in those

institutions for the superior instruction of women mentioned in the report of the U. S. Commissioner of Education. It is not a higher education than men receive, as the author pretends to assert, which is meant by the term "higher education," but an education higher than is afforded in the elementary and secondary schools of the cities and towns in this country. This definition will be generally accepted by all educators; and those who oppose "higher education" must take the ground that woman is physically or mentally disqualified to pursue the studies of colleges and professional schools, making the discussion of coëducation an issue entirely distinct and separate.

"SECULARIZATION OF EDUCATION."

BY WILLIAM W. FOLWELL, PRESIDENT OF THE UNIVERSITY OF MINNESOTA, MINNEAPOLIS, MINN.

[ABSTRACT.]

WITHIN the past half-century a system of state universities and schools of science has come into existence. This intrusion into the field of higher education has been viewed by many most worthy citizens with doubt and disfavor. By some these institutions have been denounced as Godless and infidel. This sentiment has been entertained by so many persons that it seems worth while, even at this late day, to face the question, "What right have such schools to exist, and can their work and influence be beneficent?" A glance at the field of discussion reveals the surprising fact that the state-university question is but a small corner of it. The common schools are everywhere public; so are the normal schools and the greater number of professional and technical schools. We have them to account for the prodigious historical fact that education in general has come into the hands of the people. The historical method is the only one appropriate to the elucidation of this fact. How has this thing come about?

It is simply a factor in that great historic movement, the separation of church and state, which forms the marrow of modern history. In the eleventh and twelfth centuries there was no secular power, or science, or schooling. All were under ecclesiastical control. Kings and peers were papal lieutenants. The crusaders set in motion a train of causes which, in the course of six hundred years, separated religion and politics as wide as the poles. The crusades were eye-openers to Europe. The returning devotees carried back fabrics, products, arts, manners. The capture of Constantinople, an incident of the crusades, dispersed over the West a body of learned Greeks, who carried with them the books of the ancient Greeks and Romans, and thus sowed the seed which ripened into the revival of learning. Upon this, it is well known, followed the Reformation. Whatever opinions may be held as to what the causes and the results of the Reformation were, not even the Ultramontanes can deny that its main result has been the exercise of "private judgment" as a fact. It broke the spell of Roman and ecclesiastical domination in Europe. At length Richelieu, priest and cardinal though he was, proclaimed that states must be governed by statesmen.

To this great and universal revolution from a state of things in which ecclesiasticism was supreme in government and society, to another in which it has utterly disappeared from public affairs, a profound modern thinker has given the happy designation of the "Secularization of politics." It is the main object of this paper to show that parallel with the secularization of politics there has been a secularization of education. Over against the separation of church and state stands the correlated fact of the separation of priest and pedagogue.

The university of the thirteenth century is the germ from which have grown all our modern schools; and the university was in its origin secular. The ecclesiastical powers, it is true, afterward captured the universities and harnessed them in their service; but long ago they escaped from this tyranny. It is a mistaken notion that the universities were developed from the cathedral and monastic schools of Charlemagne. A great historian* declares that these new schools so drew from the old that, in spite of the efforts of the popes, the cathedral and monastic schools fell away. Another† declares that "they," the universities, "owe their establishment, not to the favor of popes or of princes but to the necessities of the times, as thousands of students were drawn together by the reputation of some distinguished teacher. Acts of incorporation were not sought for from the pope until a later period, when the younger universities endeavored by such means to rival those which depended upon their own reputation." According to Adam Smith, they borrowed the title of university and their organization from the trades-unions of the Middle Ages. The development of middle schools as feeders of the universities dates from the Reformation; the primary school had to wait for some generations. It was not till the peace of Westphalia, in 1648, that Europe obtained release from the wars incident to the Reformation. Another period of nearly equal length was now to pass, before the full appearance of the people's education. In the mean time, modern science and philosophy were developed, a new science of political economy was born, — a science finding in the nature of man, as modified and limited by his surroundings, the causes which elevate and purify society. Germany was first to foster the new movement, to organize her education. Her schools long ago formed an organism protected and operated by public law and wholly passed from ecclesiastical control. Other European nations have since organized their education. In our own country education is completely secularized.

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* Mosheim. † Hare.

Even in the denominational college, the ecclesiastic influence is weakened, and the professional teacher has usurped the professional chair. Thus we see over against the separation of church and state, the equal co-ordinate fact of the separation of church and school. This secular position of schools has not been the work of any party of infidels or agnostics. It is not the offspring of a corrupt and decaying Christianity. It is an essential factor in the purest, fairest Christian civilization the world has ever known. It is not destructive in its aims or purposes. It is — it must be — a great providential fact, a movement in the great historic evolution of human history. If, then, education is passing out of the hands of the church, and into those of the state, I put it to those who denounce the movement as Godless the question, "What do you propose to do about it?" Will you stem the rising current with your brooms, or, embarking on the mighty wave, be borne onward with the advance of civilization?

We might here drop the discussion by asking those who dissent to show cause why, after abandoning the whole field of primary education and most of the secondary, they should hold undisputed possession of the higher education. When they gave up the common school they gave up the principle of ecclesiastical schooling. But we inquire whether there may not be elements in public education which, in their nature and relations, justify the fact of its existence.

1. Public education is universal in its scope. The people must educate themselves or not be educated. No sect, no church, nor all the churches and sects combined, is equal to the gigantic labor.

2. Next, economy. The state is not only the most efficient but the most economical of all the co-operative agents of modern times. The principle of the division of labor which renders the grading of schools and the assortment of teachers possible will of its own strength dominate all schools and school systems. This is the reason why the academies of New York and New England are giving way to high schools, and why the academy system has taken no root in the West.

3. The organization of education is possible in a public system. America will follow the example of other civilized nations and organize her schools into a complete and harmonious system, offering to the people a free course of school privileges, beginning in the kindergarten and ending in the university.

4. These schools are best calculated to develop good morals and good character. It is no longer sound orthodox theology to found morality on religion, but to build religion on the bed rock of

morality. The Bible presumes virtue. The public school, assuming the essential goodness of human nature, can and must inculcate sound morality founded on man's nature and developed by experience. It can and ought to instil virtue and condemn and suppress vice. It is an advantage to separate the moral training of the school from the religious teachings of the church and Sunday school. The fact that the school is public is an advantage: publicity purifies society as air and water dissolve and dissipate germs of disease. To live and act under public law is a sobering process. The tricks and deviltries handed down from monastic times and perpetrated in the Christian colleges will not disappear until the law of the land shall be, in college as well as out, the guardian of right and the standard of conduct.

Finally, the church gains by abandoning fields in which she has no longer a call to work. Liberated from a labor once incumbent on her, she may now turn her unincumbered force to her proper work, the evangelization of mankind. The market needs to be purified; but the church will not open a produce exchange. Education needs to be infused with the spirit of the Great Teacher, but the church will not hold the keys of the school-room.

THE FUNCTION OF AN AMERICAN MANUAL TRAINING SCHOOL.

BY PROF. C. M. WOODWARD.

WITH his gentle lance Emerson pricked many a bubble, and, though collapse did not always follow immediately, the wound was always fatal. In 1844, in his essay on New England Reformers, he charged popular education with a want of truth and nature. He complained that an education to *things* was not given. Said he, "We are students of words; we are shut up in schools and colleges and recitation-rooms for ten or fifteen years, and come out at last with a bag of wind, a memory of words, and do not know a thing. We cannot use our hands, or our legs, or our eyes, or our arms." And again, speaking of the exclusive devotion of the schools to Latin, Greek, and mathematics, "which by a wonderful drowsiness of usage" "had been stereotyped education, as the manner of men is," he says, "In a hundred high schools and colleges this warfare against common-sense still goes on. . . . . Is it not absurd that the whole liberal talent of this country should be directed in its best years on studies that lead to nothing?"

This is, perhaps, too severe; but we must admit that Emerson anticipated and greatly aided a reform which has been gathering strength for a whole generation. Hence it is to-day scarcely necessary that I should present arguments in favor of manual education. The great tidal wave of conviction is sweeping over our whole land, and the attitude and aspect of men are greatly changed from what they were even ten years ago. What I said in 1873 in a public address in favor of technical education was held to be rank heresy: I fear it would be regarded as rather commonplace to-day. The progressive spirit of the age has actually penetrated our thick hides, and we are trying to keep step with the universe.

To be sure, we still call ourselves reformers, and we shall continue to battle for the new and the true till our banners are the only ones flying. But the day of surrender is near at hand. One by one the outposts have fallen into our hands, and only a few citadels remain. An armistice has been asked for, and, if we can only arrange satisfactorily the terms of an honorable capitulation, the enemy is willing to march out and join our ranks.

In every community the demands of technical education have been discussed, and in every instance when the old system has been

subjected to the tests which good sense applies to business, it has been found wanting.

And yet let me not pass with only words of criticism. Let us recognize the inestimable value of American public education. With all its faults, it is our best inheritance Let us be just, yea, generous, if need be, to the bridge that has brought us over. Let us say, "God speed your work!" to those who are battling for education in States black with illiteracy, and let us commend the splendid work done by earnest men and women on all sides. But the faults — we must not be blind to them. If the old education has been good, we can make the new better.

Defective Education.

Is then, I ask, — is the education we give as broad and round and full as it ought to be? Is the time of tutelage most wisely spent? Do the results we secure justify the means and methods we use? Is the relation between education and morality as close as it should be? In short, do we give the education which fulfils the definition of Pestalozzi, quoted yesterday by Dr. Jeffers? I think to these questions we must seriously answer, no. There is a lack of harmony between the school-house and the busy world that surrounds it. Some have even claimed that we are wrong in supposing that education always diminishes crime. Let us see if there is any truth in their position.

You know how often a life is a failure from defective or faulty education. Too often do we see young people, who might have been educated to eminent usefulness, cast, "unfinished,"

> "Into this breathing world scarce half made up."

I have seen poor lawyers who, under a proper system of training, would have made excellent mechanics, and not a few highly educated, able-bodied men actually begging for the price of a day's board. I recall one man in particular, who was able to speak several languages, but, because no one would employ him as a linguist, he must needs beg, for he knew not how to work. Now when a man's education has been misdirected, and he is thrown upon the world shackled by outgrown theories, bewildered by false lights, and altogether unprepared for the work which perhaps he was born to do, and when in his extremity he resorts to knavery and violence and fraud to secure what he knows not how to get by fair means, those who directed, or should have directed, his education cannot be held blameless.

The moral influence of occupation is very great. A sphere of labor, congenial and absorbing, that fully *occupies* one's thoughts and ener-

gies is a strong safeguard of morality. If you would keep men out of mischief, keep them busy with agreeable work or harmless play. The balance of employments is fixed by our state of society and the grade of our civilization. Now, if indiscriminately we educate all our youth away from certain occupations and into certain others, as is very clearly the case at present, some employments will be crowded, and, consequently, degraded ; in others, the choicest positions will be filled by foreigners, and the lowest posts, wherein labor is without dignity, must perforce be filled by those who have neither taste nor fitness for their work. The result is broils, plots, and social disorder.

Thirty years ago an eloquent Frenchman (Frédéric Bastiat) charged the one-sided education of his countrymen with being an actual danger to society. He argued that the "stranded graduates," as he called those who, unable to navigate the rough waters of practical life, had been tossed high and dry on the reefs along the shore, "filled with a sense that the country which had encouraged them to devote their best years to classic studies owed them a living or a means of living, would become the leaders of mobs and officers at the barricades."

More Light.

When the shadow of death was drawing over the great Goethe, he uttered his last wish for "more light." We must echo his cry, if we would prepare our American system of education for a more glorious destiny. We treat our children too much as the unskilled gardener treats his plants. He puts them by a window and pours over them a flood of light and life-giving rays. Instinctively they turn out towards the source of their strength. They put forth their leaves and budding promises, and, as we look at them from the outside, we mark their flourishing aspect and rejoice. But, if we look at the other side, we shall find them neglected, deficient, and deformed. What they want is more light, — light on the other side. Were the sun always in the east, our trees would all grow like those on the edge of the forest, one-sided.

So in education, we must open new windows, or, rather, we must level with the ground all artificial barriers, and let every luminous characteristic of modern life shine in upon our school-rooms. We must pay less heed to what the world was two or three hundred years ago, and regard with greater respect what the world is to-day. Before we devote ourselves exclusively to the arts of expression, we must cultivate all the faculties and encourage the growth of thoughts worthy of expression.

The Arts of Expression.

Dr. Youmans recently said (*Popular Science Monthly*, May, 1882), "The human mind is no longer to be cultivated merely by the forms or arts of expression. The husks and shells of expression have had sufficient attention: we have now to deal with the living kernel of truth. . . . Under the old ideal of culture, a man may still be grossly ignorant of the things most interesting and now most important to know. . . . Modern knowledge is the highest and most perfected form of knowledge; and it is no longer possible to maintain that it is not also the best knowledge for that cultivation of mind and character which is the proper, *i. e*, the highest object of education."

I desire, for a moment, to direct your attention to the arts of expression. Next in rank to the ability to think deeply and clearly is the power of giving clear and full expression to our thoughts. This last can be done in various ways. As this brings me squarely upon a subject I wish to impress strongly upon you, I will illustrate it by a somewhat elaborate example.

A gentleman recently called upon me for my opinion concerning a certain automatic brake for freight cars. The device was new to me, but it lay pretty clearly defined in the mind of my visitor. It was not original with him, but, for the purposes of my illustration, it might have been. Before I could pass judgment, the device must lie as clearly in my mind, perhaps more clearly, than it did in his; so he set out to express his thought. He was what we call well educated, being a graduate of the oldest university in the land, and was well versed in the conventionalities of spoken and written languages. Accordingly, he proceeded to utter a succession of sounds. His lips opened and shut with great rapidity, and, without intermission, a series of sounds fell upon my ears. The sounds I heard were quite familiar to me, as I had been listening to them, in one order and another, for over forty years, and, as they had always been associated in my mind with certain concrete things, and the relations of such things to each other, certain thoughts about those things began to take shape in my mind.

Of course the sounds I heard had not the smallest likeness to the things called up by them in my mind. To an Italian peasant, or to Archimedes of Syracuse, they would have been as unintelligible as the chattering of a magpie. They were purely arbitrary or conventional, yet much of our education had been devoted to their mastery; nevertheless, as a means for expressing thought, they were in the present case quite inadequte. The ideas aroused in my mind were

confused and fragmentary, and altogether unsatisfactory. The images lacked precision. Had my friend resorted to writing a description of the invention in either English, French, German, Latin, or Greek, using in every case a set of purely conventional symbols (to represent the other set of conventional sounds) which we had both spent years in getting some knowledge of, he would have succeeded little better. Whether speaking or writing, much of his thought he could not clothe in words. He therefore abandoned the wholly conventional or verbal art of expression and turned to the *pictorial*.

But here he soon confessed that his education was deficient. He had never studied the art of representing objects having three dimensions on a surface having but two, and hence he was ignorant of the methods he ought to adopt to express by drawings the objects he was thinking of. However, I caught more of his meaning from some crude attempts at sketching than I had from all his talk. A few lines were luminous with meaning, yet they left far too much for me to supply by my imagination; hence my visitor withdrew and sent me a full set of what were called "working drawings," made by the inventor, who was a draughtsman.

These drawings, though a sort of ocular resemblance to the things signified, were still half conventional, and required on my part a certain amount of training to enable me fully to understand them; this, fortunately, I had received, and through the art of expression embodied in them, I gained a tolerably clear idea of the thought of the inventor. With scarce a written or spoken word they expressed that thought far more clearly and fully than any merely verbal description could do; they showed the relations of parts which were beyond the reach of words.

But my friend was not content to stop there. The drawings had been but partially intelligible to him, with their "plans, elevations, and sections," and, judging me by himself, he believed that a third art of expression would out-value both the others; he therefore invited me to call at a shop and examine a specimen of the device itself, produced by a skilled mechanic.

The *real article*, which is the mechanic's art of expression, proved to be an improvement even upon the thought of the inventor. The latter had not been a mechanic, and he had made the sort of mistakes that draughtsmen who are not something of mechanics always make. Certain parts it had been practically impossible to construct, as they involved shapes that could not be moulded by ordinary means. A nut had been placed where it was next to impossible to turn it, and certain parts, which were to be of cast-iron, had been given such dimensions

that the castings would have snapped in pieces while cooling. These errors had been corrected by the mechanic, and the perfected thought lay fully expressed before me

In this illustration we have three greatly different methods of expressing essentially the same thought. Each constitutes a distinct language, and each is absolutely essential to modern civilization. You will note how a crude thought often takes practical shape in the hands of the draughtsman and the mechanic. "Drawing," says Prof. Sylvanus P. Thompson, "is the very soul of true techincal education, and of exact and intelligent workmanship." Those who have tested this can tell how many marvels of ingenuity, as lovely as a *chateau d'Espagne*, have vanished in the presence of "plans and elevations," and how many beautifully drawn designs have been mercilessly condemned as impracticable by judges versed in the laws of construction and the strength of materials.

Much more could be said upon the arts of expression, their relative importance and proper cultivation. You will readily think, as did Lessing in his Laocoön, of poetry, painting, and sculpture. You will recall how lofty thoughts have in all ages found expression in architectural forms; and yet, throughout all the history of architecture, the laws of mechanics, as then understood, and the properties of the particular materials used, have determined the different styles.

In our own age we are trying to express ourselves in iron and steel, and to cast off the fetters of an age of marble and granite.

In a recent address, Mr. Charles H. Ham, of Chicago, said, that by putting thought into seventy-five cents' worth of iron ore, it is converted into pallet-arbors worth $2,500,000." He continues: "Skilled labor is embodied thought, — thought that houses, feeds, and clothes mankind. The nation that applies to labor the most thought, the most intelligence, *i. e.*, that best expresses its thoughts in concrete form, will rise highest in the scale of civilization, will gain most in wealth, will most surely survive the shocks of time, will live longest in history."

But some one will say, as to methods of expression, "one art is enough for me: make me master of one, and I will care for no second." I answer, you are thinking of an impossibility. If a mechanic is only a mechanic, he is never a master, even of his own art. He is crippled at every turn; he is limited in expressing himself to what he can make; he is without that powerful ally, drawing, — the short-hand of the imagination, — and, in the presence of thoughts that baffle concrete expression, he is dumb. Valuable machines even are sometimes purely imaginary. Clerk Maxwell, in his "Theory of

Heat," says, "For the purposes of scientific illustration we shall describe the working of an engine of a species entirely imaginary, — one which it is impossible to construct, but very easy to understand"; referring to Carnot's engine.

In like manner, if one would command confidence as a draughtsman, he must be a mechanic as well. And finally, if I am a student of words alone, and if I go not beyond my dictionaries, I shall never guess their meaning. A large proportion of our emphatic words is technical: they belonged originally to some craft; and none but a craftsman knows their exact meaning.

President Eliot, of Harvard, once said that the highest education was that which gave one the fullest and most accurate use of his mother tongue. I would modify the statement, and claim that the highest and most liberal education is that which, besides cultivating most fully the powers of thought, gives one full command of all the arts of expression.

I need not remark that many, perhaps most, thoughts do not admit of concrete, nor even of pictorial, expression, as, for example, all abstractions; hence they suffer seriously from want of clearness. If you have a clear thought on abstract matters, you can never be sure that you have expressed it clearly.

The thought must precede its expression by any method; and, in the cultivation of the thinking mind, the concrete should precede the abstract. Give children clear and accurate thoughts of real things, of the material world we live in, of real plants and animals, of the laws of materials, of qualities, and then of quantities, before you venture into the field of abstractions. Before you cultivate the high arts, make sure of the low ones: without them as a foundation, no superstructure of fine art can stand over night. As Emerson says (in "Man the Reformer"), "We must have a basis for our higher accomplishments, our delicate entertainments of poetry and philosophy, in the work of our hands. We must have an antagonism in the tough world for all the variety of our spiritual faculties, *or they will not be born.*"

Clear-Headedness.

A habit of clear thinking once formed will never leave us, however abstract our investigations become; while a habit of stopping short with ill-defined results, of resting content with obscure and half-grown mental images, a mental attitude of fogginess, has a stultifying effect which seriously dwarfs the mind. This is a most important subject; but I have place for but a few words of exhortation.

Give children clear thoughts, and begin with the concrete. When the mind is too weary or too sick to clear up obscurities, it is time to seek rest and recreation and fresh air. Beware of straining the powers of attention by too much schooling; beware of overtaxing the mind by two many and too difficult subjects; and especially beware of poisoning the blood and debilitating the brain by bad air The fruit of any and all these evils is mental as well as physical decrepitude.

The Aims of Education.

But to return. I claim for the three forms of expression, which I have taken pains to distinguish, more nearly equal care and consideration in the education of every child. Teach language and literature and mathematics with a view to make each child a master of the art of verbal expression. Teach mechanical and free drawing with natural tints and with the conventions of shade and color, and aim at a mastery of the art of pictorial expression. And lastly, teach the cunning fingers the wonderful power and use of tools, and aim at nothing less than a mastery of the fundamental mechanical processes. To do all these things while the mind is gaining strength and clearness and materials for thought is the "Function of a Manual Training School." *

Prejudices to be Overcome.

The traditions are heavily against us; but the traditions of the fathers must yield to the new dispensation. As was to have been expected, the strongest prejudices against this reform exist in old educational centres. As President Walker, of the New York Board of Education, frankly admitted at the laying of the corner-stone of Prof. Felix Adler's splendid institution, "The Workingman's School and Free Kindergarten," — the methods and aims proposed by the advocates of manual training schools are a criticism upon the methods and aims of the established system, and nothing is more natural than for it to resent criticism and discourage reform.

No man has done more — nay, no man has done as much — to introduce the manual feature into American education as Prof. John

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[* "It is possible to teach only by four methods: 1st, oral explanation given by the teacher; 2d, written explanation taken from books; 3d, graphic explanation rendered by drawings; 4th, practical explanation obtained from execution. Up to the present time only the first three methods of demonstration have been employed, and nothing but theorists produced; the moment that it is desired to train practical men, the fourth method will be added, and technical education will have been founded." — *Messrs. Gaumont and Guemied before the French Imperial Commission*, 1865.]

D. Runkle of Boston; and yet the School of Mechanic Arts, established by him in connection with the Massachusetts Institute of Technology, has, after an existence of several years, been apparently almost frozen out in the biting atmosphere of that highly æsthetic city. I doubt if one could find on American soil a more unpromising field for a manual training school than beneath the lofty elms of Cambridge and New Haven.

Luxuries in Education.

There are luxuries in education, as in food and dress and equipage, and in wealthy communities the luxuries command the chief attention. At the English Universities of Oxford and Cambridge a large proportion of the students expects to be gentlemen of leisure. The idea of giving heed to the demands of skilled labor, of preparing for lives of activity and usefulness, the idea of *earning* one's daily bread and of supporting one's family, scarcely enters their heads. Either they inherit livings, or they seek to get livings through the church, or they enter the army with commissions purchased by kind friends who wish to get them out of the way, or they go into law and politics. It is no wonder that such men devote themselves largely to the luxuries of education, to pure mathematics, astronomy, philology, Greek, Sanscrit, Latin hexameters, Italian, — in a word, to "polite" learning. In such an atmosphere as that, how incongruous is this plea of mine for an education to *things;* for a training of the hand and eye, as well as the intellect, to lives of useful employment! Yet half the colleges in the United States ape the English universities, and half the high schools ape the colleges. The result of all this has been a certain false æstheticism, which turns away from the materialism of our new notions. The highly cultivated would soar away into purer air and nobler spheres. There is a feeling, more or less clearly expressed, that the material world is gross and unrefined; that soiled hands are a reproach; that the garb of a mechanic necessarily clothes a person of sordid tastes and low desires. As Dr. Eliot, of St. Louis, has expressed it, "It is thought to be a sad descent for a university, whose aim should be the highest education, to stoop to the recognition of handicrafts of the mechanic."

Manual Education.

Perhaps no better general statement of the new creed has been made than that of Stephen A. Walker, in a speech already referred to. He put it for us thus: "Education of the hand and the eye

should go along with, *pari passu*, the education of the mind. We believe in making good workmen as well as in making educated intellects. We think these are things that can be done at the same time; and our proposition is that they can be done better together than separately."

As I said in the beginning, this proposition is meeting with general favor among the people. I have pointed out the sources of some of the opposition: it remains for me to touch upon the two objections, which I surmise are about the only ones in the minds of my hearers. You ask first, "Is your proposition practicable?" You doubt the feasibility of uniting in a real school such incongruous elements as arithmetic and carpentry, history and blacksmithing. You fear either that the shop work will demoralize the school, or that the shop work will never rise above the dignity of a mere pastime.

Now I claim not only that what I propose can be done, but that it has been done in St. Louis, and perhaps elsewhere as well.

Organization of a Manual Training School.

Prof. Thompson, in his valuable essay on the apprenticeship schools of France, classifies French technical schools under four heads: —

I. The school in the workshop or factory.
II. The workshop in the school.
III. The school and the shop side by side.
IV. The half-time schools.

In the first class the school is subordinate to the factory; the boys or girls learn a particular trade, and everything in the school as well as in the shop is designed to meet the wants of those expecting to enter the particular trade. For obvious reasons there can be no general adoption of such a combination in this country. Prof. Thompson gives his verdict in favor of the school and the shop side by side, though there is much to recommend the second plan.

No one of the French plans exactly suits me. I prefer to incorporate manual with intellectual education, and include both under the name school. We don't have what you call school in the morning and shop in the afternoon; nor do we spend the forenoons with tools and devote a few evening hours to study and recitation. We mix up the old and the new without the least compunction.

Nothing can show at a glance just how our school is managed as well as our daily programme.

DAILY PROGRAMME USED DURING THE FIRST TERM, 1881–82.

Classes.	*Divisions.*	*9–11 A. M.*			*11 A. M.–1 P. M.*				*1–3 P. M.*			
Second. Year.	A.	Shop Work.			40 min. Algebra.	40 min. English Hist.	20 min. Study.	20 min. Recess.	40 min. Physics.	20 min. Study.	60 min. Drawing.	
	B.	60 min. Drawing.	20 min. Study.	40 min. Algebra.	Shop Work.				20 min. Recess.	20 min. Study.	40 min. Physics.	40 min. English Hist.
First Year.	A.	Shop Work.			60 min. Drawing.	20 min. Recess.	40 min. Gram'ar.		40 min. Arith.	40 min. Study.	40 min. Physical Geog.	
	B.	40 min. Gram'ar.	20 min. Study.	60 min. Drawing.	Shop Work.				20 min. Recess.	20 min. Study.	40 min. Arith.	40 min. Physical Geog.
	C.	40 min. Arith.	40 min. Study.	40 min. Physical Geog.	40 min. Gram'ar.	20 min. Recess.	60 min. Drawing.		Shop Work.			

NOTES. — 1. Penmanship takes the place of Physical Geography and Physics once a week.
2. Each class has a Music Lesson once a week, extending the daily session half an hour.
3. Composition takes the place of Grammar and History once a week.
4. Spelling occupies half the study time three times a week.

There is here no confusion, no sense of incongruity. The boys go as soberly to shop as to recitation, though I ought not to fail to add that, almost without exception, they delight in the use of tools and it is no small punishment to be kept from the shop for some neglected lesson.

The Manual Training School of St. Louis differs from all other technical schools with which I am acquainted. It much resembles the Boston School of Mechanic Arts, though it differs from it in admitting boys at fourteen instead of fifteen years of age, in having a three years' course instead of two, and in having a full and independent equipment of study and recitation rooms as well as shops.

I gladly avail myself of this occasion to publicly acknowledge our indebtedness to the able reports and papers published by Ex-President Runkle on the Russian system of tool instruction, and the organization and work of his school.

All European schools of the same grade as ours are more or less devoted to particular trades, excepting the school at Komatan, Bavaria (and perhaps other similar schools), where the shop work is three times as much per day as with us, and where book learning is crowded between very narrow limits.

In like manner all other technical schools in this country are either devoted to single trades, or they are of a higher grade.

Prospectus of the School.

A prospectus of our school has just been issued, giving in detail our course of study and the methods of tool instruction. I shall be happy to give a copy to every one who is sufficiently interested to ask for it. To those who do not care for the details, I will say that our course of study runs through three years, in five parallel lines: three intellectual, two manual.

I. A course in Pure Mathematics.
II. A course in Science and Applied Mathematics.
III. A course in Language and Literature.
IV. A course in Penmanship and Drawing.
V. A course in Tool work in Woods and Metals.

Our school is not managed on the assumption that every boy who goes through it will work as a mechanic, or that he will be a manufacturer. Our graduates will doubtless find their way into all the professions; we strive to help them find their true callings, and we prejudice them against none. I have no sort of doubt, however, that the grand result will be that many who otherwise would eke out a scanty subsistence as clerks, book-keepers, salesmen, poor lawyers, murderous doctors, whining preachers, abandoned penny-a-liners, or hardened school-keepers, will be led, through the instrumentality of our school, to positions of honor and comfort as mechanics, engineers, or manufacturers.

No Articles made for Sale.

For the purpose of discountenancing certain grave popular fallacies in this country, I will add a word, even at the risk of repeating what I have said elsewhere, as to our plan of shop management. We do *not* manufacture articles for sale, nor do we pretend to fully teach particular trades.

A shop which manufactures for the market and expects a revenue from the sale of its products is necessarily confined to salable work, and a systematic and progressive series of exercises is practically impossible. If the shop is managed in the interest of the student, he is allowed to leave a step or a process the moment he has fairly learned it; if it is managed with a view to an income (and the school will be counted a failure if its income is wanting), the boys will be kept at what they can do best, and new lessons will be few and far between. In such a shop the pupils will suffer too much the evils of a modern apprenticeship.

"The common apprentice is a drudge set to execute all kinds of miscellaneous jobs. There is no systematic gradation in the difficulty of the exercises given him; more than half his hours are purely wasted, and the other half are spent on work unsuited to his capacity. What wonder that four, five, or six years make of him a bad, unintelligent, unskilful machine!"—*Prof. Sylvanus Thompson.*

A very bright boy of seventeen years had expected last fall to enter a pattern-shop in St. Louis as an apprentice, but was disappointed, there being no vacancy in the number of apprentices *allowed.* He therefore came to the Manual Training School, and during the year made excellent progress not only in carpentry and wood-turning, but in drawing, mathematics, and physics. When he showed me some of his handiwork at the close of the year, I asked him if he would have made equal progress as an apprentice. "No," said he; "I should have spent most of the first year sweeping out offices and running errands." *

Self-supporting Schools.

I fancy there is no more pernicious fallacy than this, of making a school self-supporting by manufacturing for the market. Suppose you attempt to maintain one of those popular humbugs, a commercial college, on that theory; or to run a free medical school without endowment on the self-supporting plan (the student would probably write prescriptions *cheap* and cut off legs for half price); or to manage a public school of oratory and English composition on the strength of an income derived from contributions to newspapers and magazines and from orations made and delivered to order. Nothing could be more absurd; and yet the cases are closely parallel. No, do not be beguiled by the seductive promise of an income from the shop. Admit from the first the well-established fact that a good school for thorough education, on whatever subject, costs money, both for its foundation and its support.

Closely connected is the matter of teaching particular trades, to which the lads shall be strictly confined. Such a course may work well in monarchies, where the groove in which one is to run is cut out for him before he is born, but it is unsuited to the soil and atmosphere of America. A single trade is educationally very narrow, while their number is legion. "The arts are few, the trades

* Since the above was written, a gentleman told me of his father's experience when learning the trade of a tanner in Philadelphia many years ago. He lived in the family of his employer, and *during the first six months he tended the baby.*

are many," says Mr Runkle. The arts underlie all trades; therefore let us teach them as impartially and thoroughly as possible, and then it is but a step to a trade.

But a Step to a Trade.

And this brings me to a very important point. Admitting that with a suitable outfit of tools, shops, etc., a programme such as I have described can be carried out, you ask, "*Cui bono?* — what, after all, is the manual training acquired at school good for? Has the mind been nourished through the fingers' ends? Has the hand gained any enduring skill? Is it really but a step from the door of the manual training school to the shop of the craftsman?"

Experience answers all these questions satisfactorily, and adds that there is scarcely a calling in society that is not edified by manual training. Rousseau once remarked that "to know how to use one's fingers gave a superiority in every condition in life." I recently made systematic inquiry among the parents of my boys as to the effect of the one or two years' training on our pupils. Their reports on the points now under consideration are both interesting and encouraging. They write: —

"Gerald takes great interest in fixing up things generally."

"Charles fixed my sewing machine."

"George has made many little matters of household utility, and seems to delight in it."

"We go to Henry to have chairs mended, shelves put up, etc., and he does excellent work. He made a fine set of screen frames."

"The mechanical faculty was quite small in John's case, and it has been developed to a remarkable extent."

"Leo does all the jobs around the house"; and so on for nearly a hundred pupils.

Again, the parents testify to an increased interest in practical affairs, in shops and machinery, and in such books and periodicals as the *Scientific American*. Beyond question, there is a certain intellectual balance, a good mechanical judgment, a sort of level-headedness in practical matters, consequent upon this sort of training, that in value far outweigh special products. Said Rousseau, in his "Emilius," one hundred and twenty years ago, "If, instead of keeping a boy poring over books, I employ him in a workshop, his hands will be busied to the improvement of his understanding; he will become a philosopher while he thinks himself only an artisan."

As to enduring skill, I will let you judge for yourself. The blacksmithing has occupied the second-year class about two hundred

hours, ten a week. Each man had his forge and set of tools, and each executed substantially the same set of pieces. Here is a partial set of the work done. The pieces are numbered in the order in which they were done. They were first wrought in cold lead, while the order of the steps and the details of form were studied, and then they were executed in hot iron. I have a few of the lead specimens here. The boys have not yet learned to *weld* the lead. The instructor's estimate of each piece is shown in the per cent stamped on it. The pair of tongs was made on time, less than four hours. On the day of our public exhibition, twenty boys worked at the forges about two hours; practical smiths who were present highly commended their work. Their weakest point was their management of the fire.

Prof. Clark wished me to bring some of the wood-work. I could easily have brought a cartload, but I thought it not necessary. The boys do not do *fine* work, of course, as these few specimens show. I however have tracings of the main exercises in wood-work.

One of our engineering students, who had had about one hundred and twenty hours in the blacksmith's shop and an equal time in the machine shop, writes to thank me especially for insisting upon his shop practice. Without it he would have had to decline a fine position which with it he filled satisfactorily.

As our school has seen but two years, I cannot appeal to its graduates to answer the question "How far is it from our door to positions as journeymen mechanics?" hence I avail myself of the testimony of Mr. Thomas Foley, instructor of forging, vise work, and machine tool work in the Boston Mechanic Art School. He had himself served an apprenticeship of seven years, and, after several years at his trade, had given instruction for five years. We must consider him a competent judge. In his report to Prof. Runkle, and contributed by the latter to the recent report of the Secretary of the Massachusetts Board of Education, Mr. Foley says: "The system of apprenticeship of the present day, as a general rule, *amounts to very little for the apprentice*, considering the time he must devote to the learning of his trade. He is kept upon such work as will most profit his employer, who thus protects himself. . . . Now it appears like throwing away two or three years of one's life to attain a knowledge of any business that can be acquired in the short space of *twelve or thirteen days* by a proper course of instruction. [I take it that by twelve days he means one hundred and twenty hours, distributed over about forty days.] The dexterity that comes from practice can be reached as quickly after the twelve days' instruction as after the two or more years spent as an apprentice under the adverse circumstances mentioned above."

Mr. Foley secures the best results from lessons only three hours long. He adds: "The time is just sufficient to create a vigorous interest without tiring; it also leaves a more lasting impression than by taxing the physical powers for a longer period. We have tried four hours a day, but find that a larger amount of work and of better quality can be produced in the three-hour lessons."

I consider this testimony of Mr. Foley very conclusive: it effectually disposes of the claim often put forward by practical men, that no boy can learn a trade properly without going to the shop at seven o'clock in the morning and making his day of ten hours, "man-fashion," and that dirt and drudgery and hard knocks, and seasons of intense weariness and disgust even, are essential to the education of a good mechanic.

The Cost.

It remains for me to touch upon the second important question you all have in your minds, namely, that of the cost. You are practical men and women, and you wish now to sit down and count the cost.

We set out in St. Louis to have the best of everything. We bought the best tools, and put in the best furniture. We have plenty of room and light and pure air. We aim to have good teachers and all necessary appliances. Our capacity is about 240 boys, in three classes of 100, 80, and 60 in the first-year, second-year, and third-year classes respectively.

Our building complete cost about	$33,000 00
Our tools and school furniture	16,000 00
If we add the cost of the lot ($150' \times 106\frac{1}{4}'$) . . .	14,400 00
We have as the total cost of our plant . . .	$63,400 00

The building is of brick, three stories high, and very substantial. A perspective view of it, with the three floor plans, is given in the little prospectus already referred to.

Where land is cheap, and less or lighter machinery is used, less money would suffice; but let no one deceive himself by supposing that the reform proposed is to be at once a money-saving one. Such a school costs money; but it is a grand investment. Said one of our benefactors to me not ten days ago, "I feel better satisfied with the money I have put into the Manual Training School than with any other money I have invested in St. Louis."

The same objection, the cost, applies to chemical and physical lab-

oratories of colleges; and one of the main reasons why so many so-called colleges in the Western States devote their attention almost exclusively to classics, mathematics, and history, is that they are too poor to properly cultivate chemistry and physics and practical mechanics. As to the cost of instruction, the shop is about as expensive per hour as the recitation and drawing rooms. Good mechanics, fairly educated, who are at the same time endowed with the divine gift of teaching, are rare. We have a first-class machinist and an expert blacksmith, and pay each $1,200 per year. The size of our divisions is generally limited to twenty members. In drawing we shall occasionally "double up." Incidentals — wood, iron, paper, etc. — and the wear and tear of tools amounted last year to about $10 per head. The total cost of supplies and instruction and all incidentals next year is estimated to be $75 per pupil.

How then, say you, can this costly reform be accomplished? The public schools have no funds to spare, salaries are still too low, and the demand for extensions outruns the supply. As Col. Jacobson, of Chicago, has said, "The alternative before you is more and better education at great expense, or a still greater amount of money wasted for soldiers and policemen, destruction of property, and stoppage of social machinery. The money which the training would cost will be spent in any event. It would have been money in the pocket of Pittsburg if she could have caught her rioters of July, 1877, at an early period of their career, and trained them at any expense just a little beyond the point at which men are likely to burn things promiscuously. It is wiser and better and cheaper to spend our money in training good citizens than in shooting bad ones."

How to go to Work.

There are two ways of going to work.

First. Cut down somewhat, if necessary, the curriculum of higher studies, and incorporate a manual department with your high school. The investment will pay, and the means for further growth will soon be found.

Second. Mature your plans and lay them before your wealthy public-spirited men. Almost for the first time in America, we are harvesting a splendid crop of millionnaires. They abound in every city. They know that boundless wealth left to sons and heirs is often a curse, rarely a blessing, and they would fain put it to the noblest uses. In England, such wealth would naturally go to the establishment of noble families, or the purchase of grand estates,

which should be transmitted unimpaired to oldest sons through successive generations.

Our *American peerage* shall consist of those who devote the gains of an honorable career to the establishment of institutions for the better education of the generations that shall come after them. Let others follow the examples of Cornell and Vanderbilt, of Stevens of Hoboken, Gerard of Philadelphia, Johns Hopkins of Baltimore, Case of Cleveland, Rose of Terre Haute, the Commercial Club of Chicago, and those whom I could name in St. Louis.

ANNUAL REPORT OF THE SECRETARY OF THE INDUSTRIAL DEPARTMENT.

PROF. S. R. THOMPSON, LINCOLN, NEBRASKA.

THE following brief report of the progress of industrial education during the year ending July 1, 1882, is necessarily quite imperfect. Having no official right to ask for reports from persons or institutions, your Secretary has been compelled to rely for information upon the kind courtesy of gentlemen connected with various industrial institutions, supplemented by printed reports, newspaper paragraphs, and the like. To the educational friends who have so kindly responded to his request for information, he takes this opportunity to return sincere thanks.

As last year, an attempt has been made to classify the facts obtained under a few leading heads.

I. NEW SCHOOLS FOR INDUSTRIAL LEARNING OPENED DURING YEAR.

The Storrs Agricultural School, of Mansfield, Conn., was opened in September, 1881. This school is supported by the State, and is intended to teach agriculture and horticulture, with subordinate branches of study. The course will be two years. All students are required to perform a certain amount of manual labor each day.

II. NEW INDUSTRIAL DEPARTMENTS IN SCHOOLS PREVIOUSLY ESTABLISHED.

1. The Industrial Department of the State University of Wisconsin has been greatly strengthened by the addition to its working force of a Professor of Botany and Horticulture, and an agricultural chemist. The latter will assist the Professor of Agriculture in the work of agricultural experimentation. A somewhat elaborate series of experiments in sorghum culture and manufacture, and in ensilage and dairying, were conducted.

2. Purdue University, Lafayette, Ind., has added a mechanical department. In this, instruction is first given in the conditions under which mechanical work is done, the manner in which each tool performs its work, after which the pupil goes to the workshop and learns the manual part by actual practice. Shop work was established in this school before, but the special instruction was added

during the past year. This institution now gives instruction in the following subjects: Bench work in wood, machine work in wood, pattern making, vise work in iron, forging iron and steel, machine work in iron.

The agricultural department has been extended in its facilities by the erection of a large building for its special use in experimental work. It is designed to contain class-rooms, seed-rooms, tool-rooms, and rooms for the display of forestry and horticultural products. The chemist of this school has been made State chemist, thus bringing the school into closer relations with the industrial classes.

3. The State Agricultural College of Colorado, at Fort Collins, has added, during the year, floral and garden departments. The farm and garden departments have been greatly extended. The floral department has a fine green-house for the propagation of plants for experimental purposes.

4. The School of Agriculture, Horticulture, and Botany of the University of Tennessee. The agricultural department of this institution has been enlarged and greatly extended, especially in the line of experimentation.

5. The Virginia Agricultural and Mechanical College has been enlarged by the addition of new deparments; viz., horticulture, including pomology, bee-keeping and dairying, a botanical garden, a farmer's garden, together with an experiment station.

6. *Cornell University.* — The department of mechanic arts has, through the generosity of Hon. Hiram Sibley of Rochester, N. Y., added a foundry for iron and brass, and blacksmith shop to its present workshop. Mr. Sibley also gave $8,000 with which to add to the already large appliances for mechanical education. A new chemical and physical laboratory, costing $40,000, is in process of construction, and $18,000 worth of physical apparatus has been supplied during the year, together with $6,000 worth of models and appliances for civil engineering. A fifth year has been added to the course in mechanics and civil engineering.

7. The Manual Training School of Washington University, St. Louis, has had a prosperous year. Whole number of students was 102, and 100 more are to be added in the coming fall. An additional building, to cost $30,000, is erecting, and will enable the school to train 240 boys in three classes. Moulding in sand is to be introduced the coming year.

8. The Miller Manual Labor School of Albemarle, Va., spoken of in my last report, has made excellent progress during the year. The workshop, to cost some $20,000, is about completed, and will be

put into operation in September next. The managers propose to combine in this the Russian shop-work system and that of the Worcester Industrial Institute, — *in*struction and *con*struction both. All boys in this school must work a part of each day, thus combining mental and physical labor.

9. The Agricultural and Mechanical College of Texas reports steady improvement and a largely increased attendance. This school has a course of three years.

10. Lasell Seminary, Auburndale, Mass., still continues in an enlarged and more complete form; its handiwork department, cooking, dress-cutting, millinery, china painting, and art needlework are systematically taught. These things are not merely brought in incidentally, but are systematically taught, with all needed appliances to make such teaching effective. Not business nor economy but instruction is the main end of it.

Technical Art Education.

Among the departments in the Technical Art School at Cooper Institute, New York City, are those of engraving, photo-coloring, and drawing. Pupils have made good progress in the various classes. Miss Powers, the teacher of the class in normal drawing, teaches the basis principles of drawing and color and the rules governing all artistic forms. A number of the graduates are employed by jewellers, house decorators, lace makers, carpet manufacturers, bookbinders, etc. Last year the photo-crayon class, under the intelligent direction of Mrs. Ellis, earned $5,754.59, and the present season will show much increased returns. The engraving class is continually engaged on work for Scribner, Harper Brothers, the Smithsonian Institute, and a publishing house in Detroit. The engravings in *Harper's Bazar* are all done by this class, the pupils of which earned last year $1,588.14. This year that amount will be doubled. Mrs. Carter reports that more than $20,000 was earned during the year 1880–81 by pupils in and out of the school; and it may be here observed that all the money received from these sources goes to the pupils directly, none of it being applied to the support of the Institute.

So far as learned, all the new institutions and departments spoken of in my last report are in operation with increasing usefulness.

In nearly all the large cities is a number of industrial schools, usually supported, directed, and sometimes taught by benevolent ladies, and designed to aid the poorer classes to a more worthy and

happy life. The following account of one, clipped from the Chicago *Inter Ocean*, will give a very satisfactory sketch of this class of worthy and useful institutions.

Industrial Schools.

A number of ladies interested in industrial schools for poor children assembled yesterday morning in the Bible work room at Farwell Hall for the purpose of discussing plans of work. During the last three years this particular feature of charitable work has been growing in the city, and from time to time meetings have been held for the object above stated. There has been no special organization, ladies in churches of all denominations being interested and pushing the work in their individual fields of labor. At a previous meeting Mrs. E. P. Rice, Miss E. Dryer, Miss E. Skinner, Mrs. S. A. Kean, and Mrs. Prof. Willard were chosen a committee to present at this meeting a plan for graded work in these schools, where sewing chiefly is taught. Miss Dryer submitted the following as a plan of grading, which was recommended for general use in the Saturday-afternoon sewing classes at the different churches : —

Some Model Lessons.

"The first grade is a trial grade. Instruction is given in holding the needle, length of thread, keeping the work in place, etc. Strips of cardboard are found most useful in this instruction ; canvas is also, because by use of these accurate instruction can be given, such as putting the needle straight through the cloth in overhand work. The children can also count the stitches on canvas. On coarse cloth overhand stitches are found to be the easiest for the child, and altogether best adapted to a variety of instruction.

"The second grade, or entering class, is the patchwork class. Children like to furnish pretty blocks for a quilt. They should be taught to finish what they begin. The blocks should be of pretty pattern and pretty muslin.

"The third grade is the garment class. A trial class introduces the scholar to the class. They should practise making hems, buttonholes, fells, and gathers on strips of muslin. Sometimes doll's garments may be made in this trial class, but odd strips of cloth will do as well. The garments are generally simple undergarments, aprons, etc. The object is to teach the child to make useful garments neatly and durably."

III. New and Improved Facilities for teaching Manual Arts in Schools for Deaf, Dumb, and Blind, and in Reform Schools.

The Ohio Institution for the Deaf and Dumb has raised carpentry to the position of a regular department, and constant instruction is given in it.

IV. Industrial Training in Public Schools.

As regards the introduction of industrial training into the public schools, there is not much to report, though public opinion seems in a transition state upon this subject. Learning that an experiment was in progress in the Dwight School in Boston, a note was addressed to Principal Page, which elicited the following courteous and satisfactory reply: —

Boston, June 12, 1882.

Dear Sir, — Yours of the 9th inst. was received to-day, and I take pleasure in replying that though we cannot claim to have introduced the Russian system to any extent, we have been using the common carpenter tools in two classes of eighteen boys each, during the last four months.

This is an attempt only. We want to see if any simple system of industrial education can be engrafted on our *public school* work.

The School Board furnished the room only; all other expenses were paid by a number of wealthy ladies and gentlemen, who have been for a long time interested in the matter of industrial training, and who wished particularly to see this experiment tried.

We arranged, therefore, that a skilled carpenter should be secured to give the lessons twice a week, on Monday and Thursday, from 2 till 4 o'clock P. M.

The first class of eighteen boys was elected, from the graduating class, and the second from four other rooms. This gave sufficient variety of material to test the plan. Each pupil pledged himself not to fall behind in his regular studies.

The lessons were well graded, the work was marked at the end of each session; school discipline was maintained throughout, and each boy was held to the same accountability as for his geography or arithmetic.

I have the whole programme of lessons given and the per cent of each boy on every lesson. These will be embodied in a report to be made to the school authorities, and may lead to some action on their part. If it does not, the experiment will end here, so far as this school is concerned, as the room will be needed next term for an incoming class of primary scholars.

So far as results go, the experiment was a success. The interest of the pupils, as well as of their parents, the constant attendance, the growing skill in the use of the tools, and the things really well made, all pointed one way.

The only drawback was the complaint on the part of some of the teachers that two hours per week was too much for some of the pupils to give up. They were falling behind. In one instance I felt obliged to send a boy back to his regular work. But an adjustment of the time-table would regulate this.

The school was visited by parties from widely different cities, and I am confident that all over the country an interest is springing up in this matter, which will go far to decide the character of the teaching "that is to be."

Yours most truly, JAMES A. PAGE.

Cooking in the Public Schools of Jamestown, N. Y.

At stated intervals an accomplished lady — officially called the matron — gives theoretical instruction in the art of cooking to the young ladies of the school. The young ladies practise at home, and bring their work to the matron for inspection.

Recently a supper was given to the Board of Education, at which all the food was prepared by the ladies of the class.

V. Bequests and Donations for the Promotion of Industrial Education.

1. An extensive institute of technology, at Terre Haute, Ind., is projected. Prof. C. O. Thompson, the president of this section, has been selected to organize this institution, and is now absent in Europe on business connected with his work. Full particulars have not been obtained, but it is understood that abundant means have been provided to build and equip a first-class school.

2. Mention has been made of the munificent gift of Mr. Hiram Sibley to the mechanical department of Cornell University.

VI. Progress of Public Sentiment in Regard to Industrial Training.

The increased and increasing attention given to this subject must be obvious to the most casual observer of the drift of educational thought. From a large number of letters on this subject, there is space here for but the following brief extracts: —

Hon. D. F. DeWolf, Superintendent of Public Instruction, says, "Public sentiment in this direction is increasing slowly."

Hon. Thomas B. Stockwell, State Superintendant of Public Schools of Rhode Island, says: —

"State of Rhode Island,
Office of Commissioner of Public Schools,
Providence, May 6, 1882.

"Rhode Island moves, I think, but very slowly, however, in the line of industrial education. Our people are naturally conservative; so that while we are almost purely a manufacturing people, we hesitate about taking those steps which seem to point the way unmistakably to higher success in the department of manufactures.

"Drawing has not been adopted as yet as a regular into all of our largest towns even, while it is very seldom found in the smaller villages. It has been introduced, however, into several places during the past year, and the feeling in favor of the study is gaining strength very perceptibly. It has been a fixed study in our Normal School ever since its reorganization in 1871, and the graduates are beginning to be felt in this direction as well as in many others. Within the year a special class in mechanical and industrial drawing has been started in our Providence High School, and it has been quite a success.

"For several years we have had in this city a private school of design, which in a small way has done a very good work and commended itself to the people. At the recent session of our Legislature a bill was passed making a small annual appropriation out of the State treasury towards its support, and giving the State Board of Education power to appoint two of its members on the board of directors of the school, and requiring the school to make an annual report to the Board of Education. As the forerunner of a change of policy in reference to this question, I think the above is entitled to some consideration."

Hon. M. A. Newell, State Superintendent of Maryland, says: —

"Public opinion is slowly but surely forming, prejudices are giving way, newspapers which some years ago scouted the idea of teaching boys to work are now taking up the question for serious discussion. On the whole, the outlook is encouraging."

Thomas F. Conrad, president of the Virginia Agricultural and Mechanical College, says: —

"Virginia is undergoing a great but wonderful revolution, and we are seeking to direct it toward great industrial interests, so that the entire State machinery may be in accord with its natural development."

Several other indications of the drift of public opinion in and out of school may be mentioned.

The organization two years ago of an association of teachers of agriculture and horticulture has some significance. This association, including within its membership teachers from a large number of States from Ohio to Nebraska and Kansas, and from Minnesota to Texas, held a meeting at the Agricultural College of Iowa a few days ago. The object of this meeting is mutual improvement in the details of their special work. When the industrial section of the National Educational Association was formed, it was hoped that its meetings might be the focus of such meetings as the one described; but for some reason this expectation has not been realized. Another peculiar feature of the times is the rapid increase of a kind of peripatetic schools of agriculture called Farmers' Institutes. These meetings are largely used by teachers of agriculture and horticulture

as a means of extending the art of their instruction so as to include practical working farmers within its influence. But instruction is given by others, and in some places the work becomes largely of the nature of a conference. These meetings are having a profound influence in awaking the public mind to the importance of "mixing brains" with farming. During the winter of 1881–82, seven Western States held a greater or less number of such meetings, and others are preparing to undertake it the coming winter.

The following are some of the publications on subjects relating to industrial education which have been made within the year: —

1. The Inception, Organization, and Management of Training Schools for Nurses. No. 1 of circulars of the Bureau of Education, 1882.

2. A Manual of Household Economy for the Use of Schools. Published under the direction of the Kitchen Garden Association.

3. How to make a Shoe. An elaborate and minute detail in rhyme of the various steps in making a shoe, each process being illustrated by an engraving.

Kitchen and Dining Room Work. By Mrs. H. J. Willard. Chicago: Geo. Sherwood & Co., 1882.

Manual Education in Public Schools. By L. H. Marvel. Boston: New England Publishing Company, 1882.

The Manual Element in Education. By Prof. John D. Runkle, Ph. D. Boston: Rand, Avery & Co.

In conclusion, your Secretary desires to state that this is not offered as a complete account of the movements in industrial education during the year, but it is as nearly complete as the means at his command enabled him to make it. All of which is respectfully submitted.

THE JOHNS HOPKINS UNIVERSITY OF BALTIMORE.

The report of President Gilman, of the Johns Hopkins University, gives a favorable impression of this somewhat unique but remarkably successful institution. Only six years old, and organized under the disadvantages of an unusual plan, in the face of constant opposition and misapprehension, this University has already vindicated its usefulness abroad and is in a fair way to secure the verdict of substantial approval at home. At present, the catalogue reports the names of thirty-eight resident professors, lecturers, associates, instructors, and assistants, several of whom are well known and justly celebrated in our own and foreign countries. Classes have been taught in all subjects that come in range of proper university education. In addition to the regular staff a number of distinguished persons have officiated as regular and occasional lecturers. During the past year 83 public lectures have been delivered to a daily audience of 137. One hundred and ninety-two students have been in attendance, of whom 110 were graduates from other colleges; the whole body representing twenty-two States of the Union, and several foreign countries. During the past six years 449 students have been enrolled, 275 graduates of other colleges, and 174 proper collegiate students. Over one hundred of these are engaged in teaching, and the recent appointment of Dr. G. Stanley Hall to a lectureship, including didactics, shows a desire to make the University a center of instruction in the higher departments of pedagogics.

It will be noticed that the Johns Hopkins plan is radically the European system of proper University education. Its methods of instruction, for the majority of its students, are adjusted to this plan. The Professor receives his class in a recitation-room fitted up as a library of the special subjects of the department, and the work goes on through lectures, familiar illustration, and a great deal of individual communication, with very little of ordinary recitation. Of course, in the natural sciences and physics, the student is put in contact with the object and largely left to his own resources. Degrees are conferred only after severe examinations. A system of fellowships is open to twenty students every year, by means of which young men of promise are enabled to pursue their studies for an indefinite period. The generous salaries paid to leading professors enable them to devote their time largely to original investigation.

The University supports several periodicals in which the results of such investigations are given to the public, and the University "Circulars" are a constant medium of communication. The library consists of 13,000 volumes, arranged chiefly in class-rooms for the use of students, and other important collections of books in Baltimore are open to the students, containing 179,000 volumes; while Washington, with its vast collections and

great opportunities, is within an hour's ride of the city There are various literary clubs and societies, and there seems to be a laudable intention of making the University the helping-hand of every educational work, and a proper center of scholastic, literary, and artistic development for Baltimore. Its importance in the new development of the higher education in the South is already appreciated, and the appointment of President Gilman as one of the trustees of the Slater Fund is an indication of its sympathy with the schooling of the colored people and the rising interests of the common school.

It will be observed that Johns Hopkins has undertaken a peculiar work in American education, hitherto only attempted in the advanced course of a few of our larger universities. The first response has come from abroad, and its most difficult task has been to educate the people of Baltimore to the appreciation of its plan, and the willingness to see the munificent gift of its founder applied in this way. Although wisely giving large latitude to the Board of Trustees, there is little doubt that Mr. Hopkins contemplated a great popular collegiate institution established on his suburban estate in connection with an extensive hospital and medical school, where large numbers of young men, especially from Maryland, Virginia, and North Carolina could be gathered in, at reasonable charge, for ordinary college training. A violent controversy, led by several of the leading men of Baltimore, has been already provoked by the present plan of organization. It is by no means certain what will be the outcome of this agitation. But one thing is to be hoped, in the interest of true university education,—that the present admirable foundation in the city will neither be disturbed nor seriously hampered in its broad plans and far-reaching influences. If, through the development of the original foundation, or by additions from other sources, a proper college could be built up on the Hopkins estate, the different views might be harmonized and a valuable feeder to the University be supplied. For, of course, this experiment will stimulate every leading college in the country to the building of an upper story for advanced work, leaving the Baltimore University largely dependent on Southern patronage for its supply. If, at the same time, a superior college for young women could be endowed in Baltimore, whose advanced students could be admitted to the great opportunities of the University for special study, all plans might be happily harmonized and the monumental city add to its other attractions the fame of a great university town.

FOREIGN NOTES.

THE HIGHER EDUCATION OF WOMEN.

ENGLAND.—So far as Europe is concerned the movement for the higher education of woman, which now engages the attention of every Christian State was first manifested in England. The experience of Queen's College, founded in 1848, proved the necessity of some general scheme for improving the secondary education of girls. Several associations were formed with this object in view, of which the one organized in 1862 for securing the admission of girls to the University local examinations, has been most fruitful in results. To the efforts of this society may be traced Lady Margaret Hall and Somerville Hall, under the auspices of conservative Oxford; and Newnham and Girton at Cambridge. Upon a casual view, the action of the University of London in 1878, extending all its degrees to women, seems to have been the most important measure for promoting their higher education; but in reality the foundation of Girton, which preceded that act by nine years, was more significant. From the first, Girton followed implicitly the methods and studies of the University, with the intention of proving the right of women to that culture hitherto reserved for men, and their capacity for such culture. In this view the admission of Girton students to the University Tripos is the crowning event in the history of the movement. Girton has, it should be understood, no organic relation to the University. The lectures in college are given partly by the resident lecturers (three in number), and partly by lecturers who come out from Cambridge for the purpose. All the university, and some of the inter-collegiate and college, lectures being now open to women, many Girton students attend lectures in Cambridge, the college providing carriages to take them there and back. The natural science students have most, and the mathematical and classical students have least work in Cambridge. It is the practice, though not obligatory, to read for the degree certificate. The students numbered 67 in 1882; the receipts were about $28,800; expenditures, exclusive of building, about $27,500. The recent appeal of the Hon. Secretary, Miss Davies, for a fund of £15,000 to extend the accommodations, has brought returns of about £4,000, mostly from original supporters of the college and former students. Miss Davies says: "The amount required is considerable in proportion to the resources of the comparatively few who care for the education of women."

In a recent conference with respect to the Oxford "higher examinations," it was admitted that they carried little weight in comparison with those of Cambridge, and that if they were to be sustained the women's examinations must be approximated to those for men. The master of University College proposed a motion to that effect.

SCOTLAND.—The Glasgow "Association for the Higher Education of Women," encouraged by the "Educational Endowments [Scotland] Act," have issued a memorandum urging on all concerned the importance of giving full effect to that clause of the Act which directs that provision be made for extending the benefits of endowments to both sexes. The memorandum emphasizes the great need of a continuous and systematic course of instruction leading to the university examinations for women, and the impossibility of maintaining such upon uncertain funds. The principals of seventeen leading schools of Glasgow support the Association in the endeavor to secure the benefits of the Act.

IRELAND.—Perhaps no more striking example of the irresistible pressure of ideas could be cited than the question which has been raised upon the admission of women to the Arts Degrees of the University of Dublin. The Academic Council have decided that the action is advisable by a vote of 7 to 4, but the Board have still a power of veto. A sub-committee of the Council has been formed to prepare a plan of instruction.

Meanwhile a similar problem has arisen through the action of the Royal University which extends its examinations and degrees to both sexes. The Fellows appointed by the University are also examiners, and may be required to give instruction to University students in approved colleges. Naturally the Roman Catholic Fellows have drawn together at Dublin. The advantage of being taught by one's examiner is too obvious to have escaped the attention of women students, some of whom have applied for admission to the college lectures, Dublin. Steps are being taken to lay before the standing committee of the Senate a memorial from all the women students of the University on the subject.

FRANCE.—In France the education of girls has become a feature of State policy. Normal schools are required to prepare teachers for the national schools, and lycées and colleges for girls, as a means of counteracting the influence exercised by the church through scholastic agencies. The five institutions already opened under the law of Dec. 21, 1880, establishing lycées and colleges for girls, have been referred to in a previous number of EDUCATION. In addition to these, twenty-six towns have voted to accept the provision of the law, and thirty-eight others report the matter under consideration.

Prior to the passage of the law of Dec. 21, the education of girls had been materially improved through the influence of the diplomas of capacity (*diplômes du brevet de capacité*) which correspond to a teacher's diploma in this country, excepting that they represent fixed standards of attainment. The number of these diplomas conferred in the nine departments of the Academy of Paris from 1855 to 1880 was 33,616, of which 24,171 were obtained by young women; viz., 22,068 upon the elementary examinations, and 2,103 upon the superior. In 1881 there were awarded to girls 3,164

diplomas. Of these, 150 went to candidates from normal schools and courses, 418 to teachers trained by religious orders, while of the remainder it is estimated that at least 1500 were obtained by candidates who had no intention of teaching, but sought the diploma as an evidence of proficiency in their studies.

In 1867 a society was formed at the Sorbonne for promoting the secondary education of girls, through whose efforts some of the most eminent professors have been induced to admit women to their instruction. As a result of this provision 109 diplomas were awarded to girls upon examination at the Sorbonne and the Faculties of the departments from 1867 to 1882. They were distributed as follows:

Baccalaureate of Letters,	49
Baccalaureate of Sciences,	32
License in Letters,	2
License in Sciences,	3
Doctor of Medicine,	21
License as health officer (*Officier de santé*),	1
Diploma of Pharmacy,	1

To which should be added 29 diplomas of capacity for special secondary instruction. Of the whole number, Paris claims 98.

SWITZERLAND.—The attendance of women upon the Swiss universities is generally known, as well as the action of the Russian government forbidding its subjects to avail themselves of the privilege at Zurich. Since the Russian students have withdrawn, the presence of women in that University has given no occasion for criticism. In 1881, 11 young women followed the course of medicine, and 9 the course in philosophy. The same year Berne numbered 30 women students; viz., 27 in medicine and 3 in philosophy. The majority were Russians. One of these passed the examination for Doctor of Laws, *summa cum laude*, and intends opening an office in St. Petersburg. At Geneva, in 1881, the women students numbered 53.

ITALY—The movement for the secondary education of girls has been constantly gaining strength south of the Alps since 1860. Milan, Turin, Bologna, Venice, Rome, have established municipal schools of superior grade for girls, and, by decrees of 1867 and 1871, these have been placed under the care of the Ministry of Public Instruction. Advocates of progress are now striving to obtain the passage of a law similar to that establishing lycées and colleges for girls in France.

The courses of the University of Bologna are open to women, and in 1878 a young woman obtained there the diploma of medicine and surgery. In 1881 a lady student having completed a four years' course was proclaimed Doctor of Laws. She attained the maximum of marks by her examination according to the unanimous decision of the judges. In 1882 a lady

21 years of age obtained the Diploma of Doctor of Letters, having made 24 marks in 27.

GERMANY.—Germany has a number of excellent secondary schools for girls, but there is little disposition to admit them to the universities. Even the Faculties of medicine are not open to them, and in Bavaria they are formally excluded by a decree promulgated in 1880. Leipzig admits women to the courses and examinations in science, and to the courses in letters and philosopy, but does not grant them diplomas. Gottingen confers degrees upon women, but does not admit them to the courses.

SWEDEN AND NORWAY.—In the Scandinavian countries the higher education of women is encouraged. A royal ordinance of June 3, 1870, opened the medical profession to women who should pass the same examinations as men. As a consequence, the Institute Caroline, at Stockholm, established a special course in anatomy for women; they may pursue the other courses at the Universtty of Upsal. The Wallin School, and the lycée for girls, both at Stockholm, have courses corresponding to those of lycées for boys, and leading to a species of baccalaureate examination. Since 1870 the examination has been passed by fifty young women; some of these have continued their studies at the University; the greater part are engaged in teaching. The king of Norway has signed the petition presented to the Storthing for admitting women to university privileges; henceforth they may present themselves for the examinations in arts and sciences, although they are still shut out from those which lead to public office. This restriction is under advisement.

BELGIUM.—Secondary instruction for girls has been neglected in Belgium until recently, when the government took the matter in hand. What are termed middle schools have been established in a number of places, and more are promised as the demand shall arise. Two normal schools for teachers of the middle schools have also been created,—one at Liege, the other at Brussels.

The question of the admission of women to the universities was first raised in 1875 by a letter of inquiry addressed by the Minister of the Interior, Delcour, to the universities. Without going into the details of the corresdondence, it will suffice to say that the inquiry had special reference to the propriety and legality of admitting women to the practice of medicine. The universities agreed that there was no obstacle, provided women could obtain the necessary preparation and diplomas. In 1878 a lady teacher applied for admission to the course of natural science at Brussels, was refused, and appealed her case to the central jury. She was finally admitted, and in 1881 three other women followed her example.

[The foregoing foreign educational matter has been compiled by our correspondent from reports, periodicals, and letters recently received at the Bureau of Education, Washington, D. C.—ED.]